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| 10-lb. pails, per carton of 50 | 4.55 |
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| 2½-lb. cans, per carton of 100. | 4.00 |
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| 5-lb. pails, per carton of 100 | 6.25 |
| 10-lb. pails, per case of 6.... | .90 |
| 10-lb. pails, per carton of 50.. | 4.60 |
| 10-lb. pails, per 100 ..... | 9.00 |
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| 5-gal. square cans, per case of 2 | 1.05 |

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# Honey Markets

## U. S. GOVERNMENT REPORT

**Information from Producing Areas (first half of August)**

CALIFORNIA POINTS: Southern California: The main honey flow is now over, with a crop varying widely in yield, but decidedly under normal in most sections. The best crop seems to have been obtained along the desert slope of San Diego County. The market continues very dull, but beekeepers who are financially able continue to hold their honey, feeling that higher prices are to be expected in the future. Only occasional inquiries are received for exports, and domestic orders are also few and scattered. Later reports indicate a shorter crop than first estimated. Sales reported in large lots, per lb., as follows: Orange, water white, mostly 7½-8c; few reported 9-9½c; white, 6½-7¾c, mostly 7-7½c; extra light amber, 6½-6¾c; light amber, 5-6c; sage, white to water white, 7½c; few lots higher; extra light amber, 6½-6¾c; sage and buckwheat, extra light amber, 5¼-5¾c; light amber, 4¾-5½c; light amber alfalfa, mostly 4¾c per lb., some offered lower; buckwheat, 5-5¼c per lb. Beeswax is very dull, with little trading and beekeepers generally holding their stocks. The market can be quoted at 18-20c, few 22c per lb. Sales of white sage comb reported at $6.50 per case.

PACIFIC NORTHWEST—East of the Cascades: Although the crop is irregular and recent hot weather has dried up bee pastures in some areas, it is probable that on the whole prospects are for better than an average crop. Few sales reported of white alfalfa and sweet clover in small pails at 11-13c per lb. Beeswax is moving slowly with the market quoted at 18-20c per lb.

INTERMOUNTAIN SECTION—Demand for honey, except locally, is light and the market is very dull. Little honey is going abroad, and car-lot inquiries from large buyers in the United States are not numerous. Price ranges are wide, with many sales being made at prices materially below last year's figures. Several car lots of white sweet clover and alfalfa reported sold at 6½c per lb.; one lot of 100 cases water white reported moved at 7½c per lb. Ton lots have generally sold at 6-8c per lb., with some sales low as 5c per lb. at the farm. Small pails white extracted have brought 9-11c per lb. Comb honey is scarce. The price for No. 1 to fancy white is said to range generally $3.50-4.00 per case, with some large lot sales reported low as $2.75 per case for fancy, $2.50 for No. 1 and $2.25 for No. 2. Sales of chunk honey reported at 12c per lb.

PLAINS AREA—Red River Valley of North Dakota and Minnesota: The crop for the section may average 50 per cent of that of last year. Little honey reported sold so far. One small car white sweet clover moved at 6c per lb. South Dakota and Iowa: While some beekeepers do not expect more than half a crop, others look for 90 to 100 pounds average yield. Little demand yet reported for honey and prices continue low. Large lots of honey reported sold at 6-6¾c per lb., smaller lots in 60s up to 8½c per lb.; small pails 8½c-10c per lb.; bulk comb, 9-10c per lb. White section comb honey has generally sold at $3.00-3.75 per case, few higher; fancy, $4.00 per case. Beeswax, demand light, 20-25c per lb. Kansas and Nebraska: The honey flow has been irregular, with many beekeepers obtaining very little surplus. However, colonies which were built up to good condition at the beginning of the flow have secured a fairly good crop. Averages of 90 to 100 pounds to the colony appear to be frequent, with some yards running very much higher. Demand for large lots of honey is said to be improving, and some beekeepers report that the market is firmer. Prices at present, however, are no higher than those of last year and in some cases are a fraction of a cent lower. Few small sales of white extracted reported at 8-9c per lb.; bulk comb, 8¾-10c per lb. Sales of section white comb honey reported at $3.50-4.00; few, $4.50 per case. Beeswax is weaker and quoted at 20-24c per lb., few best yellow, 27c per lb.

EAST CENTRAL AND NORTH CENTRAL STATES—Minnesota, Wisconsin and Michigan: A normal flow or above is reported from a limited territory in the upper part of these three states, and from a small section in the southern part of Wisconsin. Elsewhere, due to hot, dry weather it is not expected that the yield will often exceed 50 per cent, and in some cases it will be only one-fourth of a crop. Some large producers in northern Michigan are securing 140-200 lbs. average. Sales reported of extracted white clover in large lots at 7¾-8¼c per lb., smaller lots, 8½-9c per lb.; light amber, ton lots, 7½c per lb. No. 1 white comb honey has sold at $4.00-5.00 per case; fancy, $5.35 per case. Illinois, Indiana and Ohio: While some colonies have obtained no surplus, those that were in fairly good condition at the beginning of the season have one-third to one-half crop, and occasional yards have done still better. Very many colonies, however, especially in the lower portions of these states, have not obtained even enough honey to winter on and will have to be fed. Few sales reported of white extracted honey in 60s at 8-10c per lb.; few higher; amber, 7c; few higher. White comb, No. 1, $3.80-5.25 per case; No. 2, $3.00 per case.

SUMMARY—Recent reports have brought further assurance that the crop of honey this year will be much less than normal for the country as a whole. The heat wave has been broken in the East, and the drouth has been partly alleviated in the clover belt by recent showers, but the territory running west from Maryland through West Virginia, southern Ohio, southern Indiana, southern Illinois, Missouri, Kentucky and Tennessee, is still so dry that not only will this year's crop of honey be extremely short, with feeding necessary in some places to carry the bees through the winter, but fear is expressed that next year's clover plants may be weakened beyond recovery. Rains have so improved the situation in the Mountain States that a normal crop is looked for in Wyoming, with a fair crop in most of the other Mountain States. The Plains Area is spotted in yield with a crop averaging 50-75 per cent in most places, and in some areas 100 per cent. Texas will have very little surplus honey, and all other Southern States report crop shortages. Recent reports confirm earlier statements that the California crop will be much less than estimated at first. Flavor, body and color of

I WOULD like to rent bees on fifty-fifty basis in Wisconsin, Illinois or Iowa. I have been in the bee business for about 18 years. Reference can be had from Farmers' State Bank at Seneca, Wis. Edward Zajicek, Barnum, Wis.

WANTED—Good honey account, packages and bulk to sell packers and wholesalers on brokerage basis. Geo. A. Bayle, Jr., 319 N. 4th St., St. Louis, Mo.

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this year's honey crop reported much better than usually occurs when the crop is short. Market conditions show little improvement. The export demand is negligible, and beekeepers should aid in increasing demand in this country if they expect the market situation to improve. Market prices are lower than those of last year, in spite of the shorter crop. The beeswax market is extremely dull, with almost no demand, and prices are at a very low point.

**From Producers' Association**

Extremes of weather conditions, hot dry days, followed by 10 days of good soaking rains throughout most of our territory have brought about quite a change in condition of honey plants. If we should from now on be favored with a series of good sunny days we are likely to have a fair crop. The amount of merchantable comb honey on and off the hives is at present rather small yet. Some new extracted is now available, quality is very good. Local sales of extracted are quite satisfactory, and carlot customers are also becoming interested. —The Colorado Honey Producers' Association, F. Rauchfuss, Mgr., Denver, Aug. 14.

# Monthly Report of Honey Producers

Early in August we sent the following questions to honey producers: 1. What is the average yield per colony to date this season in your locality of (a) extracted honey? (b) comb honey? 2. How does this compare with the average yield for your locality? Give answer in per cent. 3. What portion of the entire crop of surplus honey does this represent, in your estimation? Give answer in per cent. 4. At what price has honey been sold, or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per lb.? (b) comb honey, fancy and No. 1, per case? 5. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1 per case? 6. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 7. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. The answers are tabulated as follows:

| State. Reporter. | Aver. yield per colony Ex. | Comb. | Pct. aver. yield. | Pct. total crop. | Large lots. Ex. | Comb. | To grocers. Ex. | Comb. | Retail price. Ex. | Comb | Movement |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ala. (W. D. Achord) | 15 | | 50 | 100 | $.06½ | | | | $.75 | | Fair |
| Ala. (J. M. Cutts) | | | | | | | | | .80 | | Slow |
| Ark. (J. Johnson) | | 30 | 50 | 50 | | | .80 | 4.80 | 1.00 | .25 | Slow |
| Calif. (L. L. Andrews) | 65 | | 100 | | .06¾ | | .75 | | .87½ | .25 | Slow |
| Calif. (Geo. Larinan) | 0 | | | | | | | | | | Slow |
| Calif. (M. H. Mendleson) | | | | | | | .87½ | | | | Slow |
| Colo. (O. E Adcock) | 35 | 20 | 40 | 30 | .09½ | 3.87½ | .50 | | .60 | .20 | Fair |
| Colo. (J. A. Green) | 50 | | 50 | | | | .60 | 2.75 | .80 | .15 | Fair |
| Conn. (A. Latham) | | 72 | | 90 | | | 1.00 | 6.00 | 1.30 | .37 | Fair |
| Conn. (A. W. Yates) | 35 | 25 | 50 | 90 | .08 | 4.00 | .85 | 6.25 | 1.25 | .38 | Slow |
| Fla. (C. C. Cook) | 50 | | 100 | 50 | .06 | | .55 | | .70 | | Fair |
| Fla. (H. Hewitt) | 65 | | 100 | 100 | | | .60 | | .80 | | Slow |
| Ga. (J. J. Wilder) | 37 | 21 | 30 | | .08 | 3.25 | .65 | 5.00 | 1.00 | .25 | Fair |
| Ill. (A. L. Kildow) | 30 | 25 | 30 | 100 | | | .75 | 4.00 | .75 | .20 | Slow |
| Ind. (T. C. Johnson) | 30 | 20 | 30 | 95 | | | .80 | 4.00 | 1.00 | .25 | Slow |
| Ind. (E. S. Miller | 50 | 25 | 50 | | | | .80 | 4.80 | 1.00 | .25 | Slow |
| Iowa. (E. G. Brown) | 100 | | 66 | 100 | .06 | | .65 | | .85 | .20 | Slow |
| Iowa. (F. Coverdale) | 50 | 30 | 70 | 100 | | | .60 | 4.00 | .75 | .18 | Fair |
| Kan. (J. F. Garner) | 100 | 75 | 100 | 100 | | 3.75 | .75 | 4.80 | 1.00 | .25 | Fair |
| La. (E. C. Davis) | 100 | | 100 | 90 | .06¼ | | .60 | | .85 | | Fair |
| Me. (O. B. Griffin) | | | | | | | | | | | Slow |
| Md. (S. G. Crocker) | | 20 | 50 | 100 | | | 1.00 | 5.50 | 1.50 | .35 | Slow |
| Mich. (I. D. Bartlett) | 125 | | 125 | 100 | | | | | .80 | .25 | Fair |
| Mich. (L. S. Griggs) | 60 | 30 | 30 | 100 | | | | | | | Slow |
| Mich. (F. Markham) | 60 | 50 | | | .08½ | | .80 | 4.00 | 1.00 | .25 | Fair |
| Mich. (E. D. Townsend) | 70 | | 60 | 100 | .09 | | | | | | Fair |
| Minn. (F. W. Ray) | 60 | | 50 | 100 | .08 | | .60 | | .75 | | Fair |
| Mo. (J. H. Fisbeck) | 40 | | 60 | 100 | | | .80 | | 1.00 | | Slow |
| Mo. (J. M. Romberger) | 80 | 50 | 90 | 90 | | | .75 | 3.60 | 1.00 | .20 | Slow |
| Nebr. (J. H. Wagner) | 200 | 100 | 125 | 80 | .08½ | 4.00 | .65 | 4.50 | .75 | .25 | Fair |
| Nev. (G. G. Schweis) | 30 | 15 | 50 | 45 | | 2.75 | | | .67½ | .25 | Slow |
| N. J. (E. G. Carr) | 0 | 0 | | | | | | | 1.25 | .35 | Slow |
| N. Y. (G. B. Howe) | 50 | | 50 | 100 | | | .75 | 4.80 | .87½ | .30 | Fair |
| N. Y. (F. W. Lesser) | 90 | 50 | 100 | 90 | | | | | | | Slow |
| N. D. (Chas. Engle) | 50 | | 33⅓ | 75 | .07 | | .60 | 4.75 | .75 | .25 | Slow |
| N. C. (C. S. Baumgarner) | | 10 | 25 | 100 | | | .75 | | 1.00 | .30 | Fair |
| Ohio. (R. D. Hiatt) | 100 | 50 | 90 | 100 | | | .75 | 4.90 | 1.00 | .27 | Fair |
| Ohio. (F. Leininger) | 30 | | 25 | 100 | .09 | 4.00 | | | | | Fair |
| Ohio. (J. F. Moore) | 50 | | | 100 | | 4.00 | .75 | | 1.00 | .25 | Slow |
| Okla. (J. Heueisen) | 0 | 0 | 40 | | | | | | | | Fair |
| Okla. (C. F. Stiles) | 30 | | 70 | 90 | | | .70 | 4.80 | .95 | .25 | Fair |
| Pa. (D. C. Gilham) | 30 | 25 | 50 | 100 | | | 1.00 | 6.30 | 1.35 | .35 | Slow |
| S. D. (L. A. Syverud) | 75 | 50 | 60 | 50 | | | .50 | | | .25 | Slow |
| Tenn. (J. M. Buchanan) | 40 | | 50 | 90 | | | | | 1.25 | .30 | Slow |
| Texas. (J. N. Mayes) | 20 | 20 | 50 | 75 | .07 | | .40 | | .57½ | | Slow |
| Texas. (H. B. Parks) | 10 | | 20 | 100 | | | | | .65 | | |
| Utah. (M. A. Gill) | 50 | 40 | 40 | 100 | | | .45 | | | | Slow |
| Va. (T. C. Asher) | 25 | 20 | 33 | 100 | | | .84 | 4.80 | 1.00 | .25 | Fair |
| Wash. (W. L. Cox) | 30 | | 75 | | | | | | | | Fair |
| Wash. (G. W. B. Saxton) | 75 | | 100 | 100 | | | .55 | | .65 | | Fair |
| W. Va. (W. C. Griffith) | 0 | 0 | | | | | .75 | 5.50 | 1.00 | .30 | Slow |
| W. Va. (T. K. Massie) | 0 | 5 | 10 | 10 | | | | | | .30 | Slow |
| Wis. (N. E. France) | 30 | 7½ | 50 | 100 | | | | | .65 | .25 | |
| Wis. (Jas. Gwin) | 40 | | 45 | | .08¼ | | .60 | | .80 | .20 | Slow |

# HONEY CONTAINERS

## Friction Top Pails

F. O. B. Cars Lansing.

| | 24 | 50 | 100 | 200 | 500 | 1000 |
|---|---|---|---|---|---|---|
| 2½-lb. Cans: | $1.10 | $2.00 | $3.80 | $7.50 | $17.75 | $34.50 |
| 5-lb. Pails: | 1.85 | 3.30 | 6.50 | 12.75 | 30.75 | 59.50 |
| 10-lb. Pails: | 2.50 | 4.85 | 9.50 | 18.50 | 45.50 | 88.00 |

F. O. B. Cars Chicago.

| | 100 | 200 | 500 | 1000 |
|---|---|---|---|---|
| 2½-lb. Cans. | $3.25 | $ 6.50 | $15.75 | $31.00 |
| 5-lb. Pails.. | 5.70 | 11.40 | 27.40 | 53.50 |
| 10-lb. Pails. | 8.00 | 15.75 | 39.25 | 76.75 |

Pails by Parcel Post.

| | 1 doz. | 2 doz. | 4 doz. |
|---|---|---|---|
| 2½-lb. Cans | $0.70 | $1.30 | $2.50 |
| 5-lb. Pails | 1.10 | 2.20 | 4.25 |
| 10-lb. Pails | 1.55 | 3.05 | 6.00 |

Postpaid to points within 150 miles of Lansing.

## Five Gallon Cans

F. O. B. Cars Lansing.

**Packed in Reshipping Cases, 2 Cans to the Case.**

| | |
|---|---|
| Per Case | $1.10 |
| 10 Cases | 10.00 |
| 50 Cases | 48.50 |

F. O. B. Cars Factory (Chicago or Warwood, West Virginia.)

| | |
|---|---|
| 10 Cases | $ 9.00 |
| 25 Cases | 22.00 |
| 50 Cases | 43.25 |
| 100 Cases | 85.00 |

**Add 1½c per case for 2½" Screw Caps.**

## 60-Pound Cans in Bulk

| | |
|---|---|
| Per Can | $0.40 |
| 6 Cans | 2.30 |
| 12 Cans | 4.50 |
| 50 Cans | 17.50 |
| 100 Cans | 34.00 |
| Per Crate 50 | 15.00 |

F. O. B. Chicago or Warwood, W. Va.

## Tall Clear Glassware

F. O. B. Cars Lansing

| No. in Case. | Shipping Wt. | Per Case | 10 Cases | 25 Cases | 50 Cases |
|---|---|---|---|---|---|
| 3-oz. Jars: | | | | | |
| 48 | 12 lbs.. | $1.25 | $11.50 | $27.00 | $52.00 |
| 5-oz. Jars: | | | | | |
| 24 | 10 lbs.. | .80 | 7.50 | 17.50 | 34.00 |
| 8-oz. Jars: | | | | | |
| 24 | 12 lbs.. | .95 | 8.75 | 21.00 | 40.00 |
| 16-oz. Jars: | | | | | |
| 24 | 19 lbs.. | 1.15 | 11.00 | 26.00 | 49.75 |
| 32-oz. Jars: | | | | | |
| 12 | 15 lbs.. | .85 | 8.25 | 19.25 | 37.75 |

## Corrugated Paper Shipping Cases

F. O. B. Cars Lansing
Holding 24 Sections Each

| | 5 | 10 | 50 | 100 |
|---|---|---|---|---|
| Corrugated Shipping Cases, 4¼x1⅞: | $1.10 | $2.00 | $9.25 | $17.75 |
| Corrugated Shipping Cases, 4¼x1½: | 1.05 | 1.90 | 8.75 | 17.00 |
| Corrugated Shipping Cases, 4x5x1⅜: | 1.00 | 1.85 | 8.50 | 16.00 |

## Holding 12 Sections Each

**Offered only for 1⅞" sections and 4 x 5 sections, and same price for both sizes as follows:**

5 for $ .60 10 for $1.10
50 for 4.75 100 for 9.25
200 for $18.00.

F. O. B. Cars, Lansing, Mich.

**This includes gummed tape for both top and bottom of case. Sample of the 12-section case, either size, for 18c postpaid.**

**Silicate of Soda for sealing above cases, 1 gallon, 60 cents; 1 quart, 20 cents; ½ gallon, 35 cents.**

**Gummed Tape, 3 inches wide, shipping weight 5 lbs., per roll, $0.85.**

## "A" Grade Tin Paste

**The "A" grade tin paste we are selling this year is of much higher quality than we have had before. It is suitable for either tin or glass containers. 1 pint, 30 cents; 1 quart, 55 cents; 1 gallon, $1.75. Postage extra.**

**HONEY LABEL CATALOG**—Fine honey and a Handsome Label make a combination that the average honey users can not resist. You produce the honey; let us produce the label for you. Then display your goods and see how quickly your honey moves. Send for Honey Label Catalog.

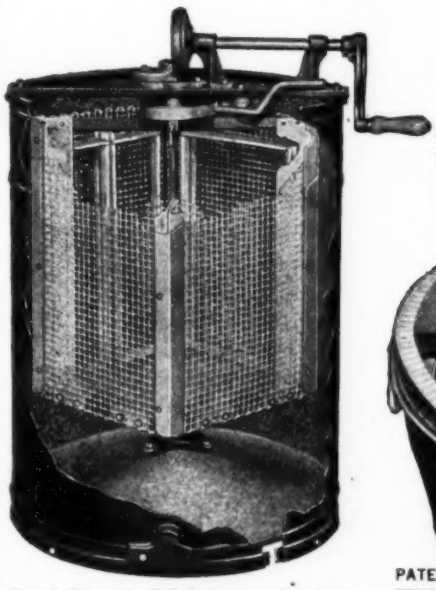
## M. H. Hunt & Son, Lansing, Michigan

# 4-8 Universal Honey Extractor

**Price $29.50. Weight crated, 130 lbs.**

QUALITY---CAPACITY---PRICE---

You extract 4 deep or 8 shallow frames at a turning.



**Send for special honey extractor circular.**

## Junior Honey Extractor

**Price, $7.50. Weight, 30 pounds.**

The **JUNIOR** extracts 2 shallow or 2 deep frames or 16 partly finished sections at a time and can be used for drying cappings. It is strong and well made and does a very efficient job.

PATENT PENDING

# Tin Cans and Pails

**BEST QUALITY ON THE MARKET—JULY 1, 1930.**

**In strong dust-proof cartons. Pails with Sure-on Bails.**

| | Shipment from Grand Rapids. | | | Shipment from Chicago or Wheeling, W. Va. | | |
|---|---|---|---|---|---|---|
| | Per 100 | Per 500 | Per 1000 | Per 100 | Per 500 | Per 1000 |
| 2½-lb. cans, 100 in carton | $3.75 | $17.75 | $34.00 | $3.25 | $15.75 | $30.80 |
| 5-lb. pails, 50 in carton | 6.50 | 31.00 | 60.00 | 5.75 | 27.50 | 53.75 |
| 10-lb. pails, 50 in carton | 9.50 | 45.00 | 88.00 | 8.00 | 39.25 | 76.75 |

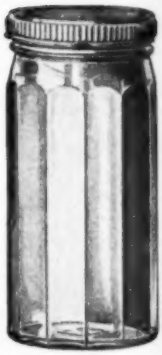
| 60-pound cans. | From Grand Rapids. One box. | Ten boxes. | From Chicago or Wheeling, W.Va. Ten boxes. | 50 boxes. | 100 boxes. |
|---|---|---|---|---|---|
| 2 in wood box | $1.10 | $10.00 | $9.00 | $43.50 | $85.00 |
| 50 bulk crate | Per crate, $17.50 | | Per crate, $15.00 | | |

**PRICES ON CLEAR GLASS JARS**

| Panel or plain, in cartons. No. in pkgs. | Shipment from Grand Rapids, Mich., or Dunkirk, Ind. 1 carton. | 10 cartons. | 25 cartons. | 50 cartons. |
|---|---|---|---|---|
| ½-lb. 2 doz. | $0.95 | $8.75 | $21.25 | $40.00 |
| 1-lb. 2 doz. | 1.15 | 11.00 | 26.25 | 50.00 |
| 2-lb. 1 doz. | .85 | 8.00 | 18.75 | 37.50 |

## A. G. WOODMAN COMPANY, Grand Rapids, Mich.

# Your Quality Honey Looks Best in Quality Containers



Send for our fall price list including containers listed here and it will be sent by return mail.

This year the beekeeper must do all he can to promote honey sales. Well selected containers will help. All the containers on this page and in our complete list are selected for service, quality, and appeal. In our fall price list (copy sent on request) are pails, jars, packages for comb honey, wrappers, shipping cases, label paste, signs, stickers, folders, recipe booklets—everything you need to help the sale of your crop.

## E. Z. Carry Quart Jars

**A Booster for Honey Sales**

Convenient and easily carried; for grocer or roadside stands; can be used afterwards for canning, preserving, pickling, etc.

The price fortunately is attractive. Full quart measure, packed twelve in corrugated shipping case, weight of case, twenty pounds. Price, 90c per case f. o. b. Hamilton, Illinois, or Keokuk, Iowa. Special prices on large quantities.

## Glass Jars

of clear flint glass, fluted; made according to specifications of American Honey Producers' League. Tight sealing caps and packed in dustproof cartons.

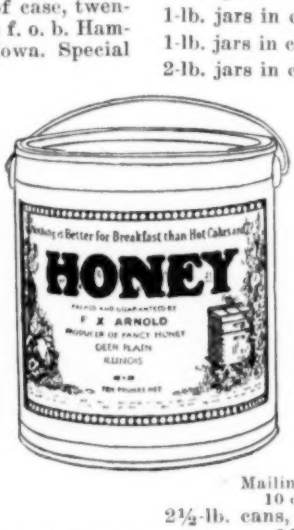
**Fluted Jar Prices**

3½-oz. jars in cartons of 24 (wt. 7 lbs.) $.55
½-lb. jars in cartons of 24 (wt. 12 bs.) .75
1-lb. jars in cartons of 12 (wt. 12 bs.) .55
1-lb. jars in cartons of 24 (wt. 22 lbs.).1.00
2-lb. jars in cartons of 12 (wt. 17 lbs.) .75

## Honeyware Lithographed Pails

**Four Colors**

Beautiful four-colored pails, gold, red, green and black. Food lacquered inside. Seams soldered and tight friction lids. Sample, 25c. Also made in 2 colors.




**Prices**

| | |
|---|---|
| 2½-lb. cans | $7.05 per 100 |
| 5-lb. pails | 11.60 per 100 |
| 10-lb. pails | 15.60 per 100 |

F. O. B. Hamilton, Ill., or Keokuk, Ia.

## Plain Friction Top Pails and Cans

Tested for leaks under 40 pounds air pressure. Best quality tin well soldered. Tin bright and new.

**Prices**

| | 10 cans | 50 | 100 | Mailing wt. 100 |
|---|---|---|---|---|
| 2½-lb. cans, | 6 lbs. | $0.60 | $3.60 | 31 lbs. |
| 5-lb. pails, | 8 lbs. | 1.00 | $3.20 | 6.40 | 54 lbs. |
| 10-lb. pails, | 12 lbs. | 1.50 | 4.70 | 9.40 | 90 lbs. |

**Send for fall price list giving quantity discounts**

DADANT & SONS ❖ HAMILTON, ILL.

# Gleanings in Bee Culture

September, 1930

## Our Cornerstone

**REMEMBER** at all times that improved bee culture is our end and aim, and we trust no one will hesitate to give any facts from experience because they may tend to overthrow any particular person or "hobby." If any of our special plans don't work, or if anything we advertise has had its value overestimated, here in these pages is the place of all others to set the error right.—From A. I. Root's "Introductory" in the first issue of Gleanings in Bee Culture, Jan. 1, 1873.

**Corn-Sugar Hearing** The hearing on the question of making an exception for corn sugar as to declaration of its presence when used in other foods, called by the Secretary of Agriculture on July 25, was an interesting affair. Something like 100 people assembled in the Secretary's office at the appointed hour when it was suggested that they divide themselves into two groups, those favoring a change in the regulations in the enforcement of the Pure Food law making it unnecessary to declare the presence of corn sugar in other foods, and those opposed to such a special favor for corn sugar. Only about a half dozen persons made up the corn sugar group, while more than 90 joined the other group.

The corn-sugar group, of course, was made up chiefly of high-salaried people employed by corn-sugar interests whose expenses were no doubt being paid by these same interests. Those who opposed the proposed change in regulations were, for the most part, irate American citizens who paid their own expenses to protest against such an outrage against the rights of consumers.

Among the groups opposing the proposed change in regulations represented at the hearing were the food commissioners of the various states, canners, beekeepers, wholesale grocers, and consumers. Mrs. Wiley very ably plead the cause of the consuming public, thus taking up the work of her late husband where death compelled him to leave it.

As the last forms of this issue go to the press, no announcement from the office of the Secretary of Agriculture has been received as to what decision he has reached in this matter. But in view of the preponderance of evidence against the outrageous proposition by the corn-sugar interests to emasculate the Pure Food Law, it would certainly seem that Secretary Hyde must decide against the proposition. Congress has again and again refused to grant to corn sugar the special privilege its manufacturers have asked for repeatedly, and all former secertaries of agriculture since the advent of the Pure Food Law have also refused to make exceptions in that great law in favor of corn sugar.

**Hot Nights Affect Honey Flow** The excellent honey flow from sweet clover in many localities east of the Mississippi River during the first half of July was cut off with astonishing abruptness on the advent of hot nights. While the nights were cool as they were during the first half of July, sweet clover yielded well, apparently pouring out nectar most freely when the temperature was 90 or above; but when the hot nights began, the flow of nectar apparently stopped completely. When the nights became cooler early in August, sweet clover began to yield again but not nearly so freely as before. Of course, some factor other than high temperature at night may have been the cause of the sudden stoppage of nectar secretion. The soil moisture, which was rapidly diminishing, may have reached a critical point beyond which there could be no nectar secretion, or the daytime temperatures may have gone above a critical point. But the suddenness with which it stopped when hot nights came and the fact that it started again when nights became cooler leave a strong impression that the advent of hot nights was the cause of the cessation of nectar secretion in sweet clover in July.

**Honey Crop Conditions** The record-breaking drouth has further greatly reduced an already short honey crop. In much of the country, the condition of the honey plants was below normal in the spring, and, in many localities, the colonies were in poor condition when the honey flow began because many ran short of stores during the building-up period. On top of these adverse conditions, there came one of the worst drouths in the East that the country has experienced since records have been kept.

The drouth was most severe in a broad belt extending from Maryland and Virginia westward on each side of the Potomac and Ohio rivers, thence into Missouri, Arkansas and Oklahoma, thus including the southern portion of the clover belt. In many localities in that region, the colonies not only failed to store any surplus, but in many cases they had to be fed to prevent starvation in the middle of the summer. While the drouth was less severe in the northern tier of states and in Ontario, Canada, the honey crop in that region ranges from 50 per cent of normal in the southern portion to normal or above in the northern.

Conditions in the irrigated portions of the West were greatly improved by timely rains in some portions. Wyoming now expects a normal crop, and a fair crop is expected in other mountain states. It is only in the New England states, northern Michigan, northern Wisconsin, portions of the Pacific Northwest, Wyoming and portions of Florida that reports thus far indicate the crop to be normal or above.

Taking the United States as a whole, the honey crop is, therefore, considerably below the average. Under normal economic conditions, this should mean a stiffening of prices, but thus far the market appears to be dull, and in some cases honey is being offered at prices even below those of last year. It remains to be seen just what the price trend will be on this season's honey crop.

It should be noted that in the region most severely affected by the drouth, most of the honey is sold locally. When this region has a bumper crop, it is usually all consumed within a short distance from the point of production. Now that the crop is short in this large consuming area, the way should be open for enormous amounts of honey from other regions to supply the normal consumer demand. If industrial conditions in this region improve soon, it should be a rich field for marketing honey. Beekeepers in this region who have but little honey of their own production for sale, should by all means supply their customers with honey purchased from regions having a surplus.

**Condition of Colonies in the Drouth-Stricken Region** In the region most severely affected by the drouth, beekeepers are confronted with a serious problem in the maintenance of their colonies. In some localities it was necessary to begin feeding in July in order to prevent starvation. Since the drouth has greatly reduced the prospects for fall honey, there is some question as to whether they shall feed to keep up brood-rearing and also supply their colonies with winter stores, or let their bees starve. In portions of this region extending from Maryland and Virginia to Oklahoma, there are more bees per square mile than in any other portion of the country, according to census figures. Most of these colonies are in the hands of smaller beekeepers who keep them as a side line.

If this condition existed further north, many would be inclined to neglect feeding, and count on replacing the colonies with package bees next spring. However, the region most severely affected by the drouth is too far south for best results from packages.

Since bees often secure nectar from some unexpected source, a little feeding may tide the colonies over, in most cases, and if colonies that are short of stores now are given a little help, the expenses will, in all probability, be amply repaid next season. Since sugar is cheap, it will certainly be advisable to feed the bees wherever there is a shortage of stores at this time. Feeding for winter, if necessary, can be postponed until late in October at which time many colonies may have stored considerable honey from fall flowers, making it unnecessary to feed much.

Where no surplus honey was secured, many beekeepers are making enough profit by supplying their local demand with honey purchased from others to more than take care of the needs of the bees to tide them over until next spring. Those who fail to take proper care of their colonies this fall will no doubt have plenty of reason to be sorry next season.

**Effect of Drouth on Honey Plants** In the southern portion of the clover belt where the clover has been most severely injured by drouth, some beekeepers hesitate to go to the expense of feeding their colonies to tide them over until next season when prospects for clover are so poor. It should be remembered that there is still time for great improvement in the condition of the clovers in most of the clover belt. Good showers in September and October would revive much of the clover except in the driest places. In localities where the new clover plants from last spring's seeding were killed by the drouth, county agricultural agents have already advised farmers to re-seed the fields by disking in clover seed any time up to September 1, counting on fall rains supplying sufficient moisture to give a good stand of clover for next season. Where clovers have been badly dried up, farmers are quite anxious to provide pasture and hay for next season, and are quite ready to follow the advice of the county agricultural agents in this respect.

Since sweet clover grows more rapidly than other clovers and provides such an abundance of feed for stock even in dry seasons, this should be an opportunity for encouraging a greater acreage of sweet clover. No doubt many farmers who have noted the advantages of sweet clover during this dry season will plant a larger acreage for next year. In fact, many farmers noting the great advantage of sweet clover for hay and pasture this season have already disked in sweet clover seed in oats and wheat stubble, which, if there is sufficient moisture, will supply nectar for the bees as well as pasture for the stock next summer.

In localities where there is not enough moisture for such late seeding of the biennial sweet clover, the problem of forage for the stock and nectar for the bees can be solved by sowing the annual sweet clover, Hubam, during the winter or early spring. Since Hubam makes the most rapid growth of any of the legumes, there would be an enormous acreage planted next spring in regions where the clover has been injured by the drouth if only farmers knew about this wonderful plant. Under favorable conditions when sown in March, Hubam should be three feet or more high in June, and such a pasture lot of Hubam clover will support a larger number of head of stock than any other plant except biennial sweet clover in its second year. Thus, in order to have an abundance of feed for the stock as well as nectar for the bees next summer, either the biennial sweet clover should be sown now or the annual sweet clover should be planted next spring.

**Annual Sweet Clover to the Rescue** Gleanings suggests that beekeepers, in localities where the clover has been injured by the drouth, take this matter up at once with their respective county agricultural agents and thus start a movement for more pasture for stock and nectar for the bees next summer. Most of the agricultural agents will be quick to see the advantages to the farmers resulting from such a movement, and will be willing to take immediate steps to carry out some such plan in their respective counties. Since many county agents may not be familiar with the advantages of Hubam, it will be well to explain to them that it makes its full growth during the first season and is one of the most rapid-growing legumes in existence. It is certainly pre-eminently fitted for the present emergency.

If such a movement gains the headway it deserves in this emergency, there will no doubt be a shortage of Hubam seed, since only a few of the larger seed houses carry it in stock in quantity. This can be taken up with the county agricultural agents who should be able to obtain seed while the supply lasts. In many cases unhulled or unscarified seed can be obtained from farmers who grow Hubam but do not make a business of raising seed. Since experiment stations are now finding that better results are had by sowing unscarified or even unhulled sweet-clover seed during the winter than by sowing scarified seed in the spring, the seed problem is somewhat simplified.

It is an ill wind, indeed, that blows nobody good. The great drouth has brought the greatest opportunity for sweet clover in the East that it has ever had. If the beekeepers of the country will take advantage if this opportunity by talking sweet clover to county agricultural agents and by articles setting forth its advantages as a forage crop and soil improver in their local papers, many poor beekeeping localities will be converted into good ones, and at the same time farmers will be greatly benefited.

# September in the Bee Garden

A. H. Bowen

## Taking Up Time Brings Opportunity to Utilize Bees Marked for Sulphur Pit

When the greens of the growing season change into yellows and browns we have entered the harvest period of the whole year. And to the harvest of roots, fruits, vegetables or grain must be added that of the honey crop. In rural places beekeeping is still a pursuit followed by many on old-fashioned lines.

In these bee gardens found in hamlets still lying unspoiled among the low surrounding hills there exists the same time-honored customs. The round of the bee year comes and goes. The happily wintered skeps grow strong, swarm and swarm again, increasing three or four fold by autumn time.

At the close of a long hot summer the arrival of wasps round about bring home the fact that "taking-up" time is at hand. Our skeppist then expects to find the parent stocks as well as the prime swarms agreeably heavy. In all likelihood the outer combs will be solid with yellow sainfoin honey. He expects the "late lots" to have more bees than honey as they had only the "tail-end" of the season left for honey gathering.

### Rescuing the Condemned Bees

Some quiet evening all the hives are "hefted." Those of medium weight in sound skeps with bright combs are allowed to stand the winter. All the rest are taken up. Here and there the practice of sulphuring the population is still followed; but the competent apiarist who offers to drive and save the lives of the bees is, as a rule, a welcomed visitor. Generally the bees are to be had for the trouble entailed in securing them, and they may be utilized in several useful ways.

Strong prime swarms often need a straw super before the season closes.

What then do we require to venture out on a bee-driving excursion? The para-

In many a sheltered hamlet in England can be found bee-gardens wherein straw hives add a picturesque note to the surroundings.

Caging the queen. This late swarm failed to fill the box with combs. Such colonies are invariably "taken up."

phanalia is simplicity itself. A few dome-topped skeps of several sizes together with some squares of scrim, a roll of cord, driving irons and skewer, a handful of sulphur matches, and the usual subduing kit. Arrived at the spot a stout bench is requisitioned; the kit is laid out and we are soon ready to commence operations.

### Method of Driving

A few puffs of smoke blown into the entrances put the bees into good heart. By the time the hive has been broken loose from its stand, carried away, and a skep to receive the bees hinged into position, the bees are ready to run upwards with a pleasant murmur. Then what more delicious smell is there than that rising from warm combs of honey. Should the queen be carried above with the first rush, the skep will soon be deserted. But some patience may be required to coax above a queen young and shy.

While the driven bees are quietly settling down on their own stands the skeps are finally cleared of stray bees and carried indoors. Straw hives are the most agreeable to deal with. On the contrary an abomination is the butter box stock. While yielding plenty of bees finally, the inmates sulk and hang back.

If the weather is stormy, the bees are carried into a building to be driven.

### Utilizing the Driven Bees

After a cup of tea and a chat about the vagaries of the swarming season and what not, the hives are secured firmly ready to be transported "to pastures new." The bees being mainly young ones can, if need be, be used to start fresh colonies. Two

Bees being driven from their hive into an empty hive placed above.

average lots scaling 2½ to 3 pounds each shaken into a hive provided with half a dozen well stored combs of honey will, after stimulation, make a nice colony for wintering. The stock not having summered well may be requeened and strengthened.

The condemned bees are given a new home and provided with combs of sealed honey.

One with plenty of food with a lively queen but short of bees may be helped. Secured early in August driven bees may even draw out foundation and store 30 pounds of sugar syrup before cold weather sets in.

Provided with combs, however, the chance of wintering is much more likely. In these several ways can condemned bees be utilized to good advantage and saved from a fate ill-deserved indeed after a season's labor.

Cheltenham, England.

# Definitions for Honey

Dr. E. F. Phillips

## Makers of Dictionaries and Government Officials Try to Define Honey

The series of articles on honey which have continued with some interruptions for some months have brought out many interesting facts and some speculations on honey, the best of all sweets. Perhaps a logical step would have been to begin the series with a definition of honey, but such a definition is difficult and is more readily understood after some preliminary discussions of the various characteristics of this product of the beekeeper's effort.

There are, of course, many definitions of honey. In Browne's noteworthy bulletin (110, Bureau of Chemistry, 1908, 92 pp.), he quotes some of these. The best general definition selected by him is that of the Century Dictionary, which reads: "Honey is a sweet viscid fluid collected from the nectaries of flowers and elaborated for food by various species of insects, especially by the honeybee (*Apis mellifica*). Bees often fill their cells with substances other than the nectar of flowers, as molasses, honeydew, or the juices of fruits, but the product is not true honey." Blythe and others limit the word honey strictly to the product elaborated by

honeybees, which is doubtless more in keeping with the facts. There are some wasps which store a honey-like material, and the honey ants of Texas store a similar product, but these are unimportant from the standpoint of human food.

### Definition Used in Enforcing Food and Drugs Act

The Committee on Food Standards of the Association of Official Agricultural Chemists formulated a definition of honey previous to the passage of the food and drugs act but used in its enforcement, which reads as follows: "Honey is the nectar and saccharine exudations of plants, gathered, modified, and stored in the comb by the honeybee (*Apis mellifica*). It is laevo-rotatory, contains not more than twenty-five (25) per cent of water, not more than twenty-five hundredths (0.25) per cent of ash, and not more than eight (8) per cent of sucrose." Further elaborations of this definition define comb honey, extracted honey, strained honey and the like, but these have little bearing on the definition of honey proper.

A point of some dispute arose from the inclusion of the words "saccharine exudations" in this definition, since materials from sources other than nectaries, even if of plant origin, are usually classed as plant honeydews. Furthermore, some beekeepers became exercised when this definition was being discussed, for fear that some of their honey might accidentally contain secretions of plant lice, scale insects and similar insects, these being commonly called honeydew or insect honeydew. To clarify this situation, the Committee on Food Standards at a meeting May 29, 1908, adopted the following minute: "The standard does not in any way exclude small quantities of honeydew from honey. We realize that bees often gather small quantities of honeydew that can not be detected in the finished product by chemical means, and does not damage its quality. It is only when relatively large amounts are gathered that the quality of the honey is impaired, and it fails to meet the requirements of the standard. It is generally agreed that such a large amount of honeydew is injurious to the quality of the product, which can not then be properly regarded as honey."

Obviously a definition for use in a dictionary and one adopted by food chemists are not formulated for identical purposes and will therefore differ. Food officials demand a definition that differentiates the material in question from all other materials with which it might be mixed or blended, and which at the same time sets limits which will make it possible for them to detect or to expose adulteration or substitution. They are not so much concerned with the completeness of the definition for its own sake.

Honeys from various plant species and produced under different climatic conditions show so much variation in the proportions of the several constituents that a definition which specifies quantities of ingredients is difficult or impossible to formulate. It will be noted that in the definition of the food chemists, they have placed limits on the percentages of three ingredients only, these being the three most easily limited. The upper limit for water content is doubtless higher than necessary, since a honey containing as much as twenty-five per cent water would readily ferment. The limits for ash and sucrose are set primarily for the purpose of preventing adulteration, since a sucrose content of over eight per cent would suggest adulteration with cane sugar. An ash content higher than that specified would indicate honeydew. However, even the sucrose limit is a dangerous one, for entirely pure honeys have been found which contained more than this amount of cane sugar when extracted or removed from the hive shortly after storage. The action of invertase which was discussed in an earlier article soon brings the cane sugar content within the legal limits, so there is small chance of an honest beekeeper getting into trouble over this feature of the official definition.

### Official German Definition

Of recent years some American exporters of honey have run counter to the regulations of the German government regarding the treatment of honey, as was discussed in an earlier article on enzymes. It then becomes of interest to examine the official German definition. These are, of course, here translated, and the writer is responsible for the translations here used, since they differ somewhat from translations made and issued by one of the federal departments.

According to the German definition, "Honey is the sweet material produced by bees in which they take up nectar or other sweet materials found on parts of living plants, enrich it with materials from their own bodies, modify it in their

bodies, store it in combs and leave it there to ripen." The definition then proceeds to classify honeys, according to their plant origin, geographical origin, the type of production (comb honey, extracted, etc.) and the purpose for which it is to be used (baking, table, etc.) Further limiting explanations are then given as follows: "Floral honey in fresh condition is a viscous, transparent substance which generally becomes more or less firm and crystallized. Its color varies from white, light to dark amber, greenish-yellow to brown, its odor and taste are characteristically sweet and aromatic according to the origin and method of production of the honey. Floral honey contains, besides enzymes and pollen grains, generally about 22 per cent of water, 70 to 80 per cent of a mixture of dextrose and levulose, up to 5 per cent of sucrose, 3 per cent or more of sugar-free dry residue, including organic acids, corresponding to a degree of acidity of 1 to 4, 0.3 per cent or more of nitrogenous compounds, dextrin-like materials and 0.1 to 0.33 per cent of ash." Then follows a characterization of honeydew for the points in which it differs from honey.

Elaborate explanations are then given so that it is possible to tell when a honey is deteriorated, adulterated or misbranded, and it was in connection with these supplemental explanations that the absence of enzymes in honeys exported to Germany entered into the recent controversies.

### Failure of German Diastase Tests

One of the dangers of attempting too specific definitions is that one is apt to exclude some honey which is actually pure, and it was at this point that the German definition fails. There are, for example, pure, unheated honeys which contain so little diastase that they failed to meet the German standards, and in fact all American honeys seem to be somewhat lacking in these mysterious substances compared with honey studied in Germany. This might look bad for American honey were it not for the fact that Freeborn and Vansell have found that most of the diastase in honeys comes from included pollen grains, so that a shortage of diastase may readily be interpreted as signifying a cleaner honey! It is to be suspected that the German methods of extracting are less careful than ours, or at least so the specified diastase tests would suggest.

The obvious answer is that if one wishes to export honey to Germany, he could readily cause it to meet their diastase requirements by putting the contents of about one pollen cell into each 60-pound can, and if this were done it would be impossible from the diastase tests to tell whether or not the honey had previously been overheated. This is not intended as a suggestion for dishonest practice but merely points out a joke on our German associates. More recently it has been found that still another enzyme has its origin in either pollen grains or yeast cells, so perhaps a little fermentation might help some of our honey to pass the German borders!

Their diastase test having been rather well hammered, Germany is now depending on a high duty to exclude outside honeys for the promotion of beekeeping in that country. This is a preferable method, for the earlier plan is about on a par with some quarantines which acted to exclude where a duty was not available.

Honey, of course, contains sugars and may therefore be defined as sweet. These sugars are dextrose, levulose, some sucrose, occasionally minute amounts of maltose, rarely the uncommon sugar melezitose, or the sugar alcohols mannite and dulcite. It would not be at all surprising to have still other sugars detected in small amounts in some honeys. Honey always contains water, since it is elaborated from a still more watery substance, nectar. Honey always contains mineral materials, although some honeys have these only in fractional quantities. Coloring materials and the like are exceedingly variable. The enzymes discussed in an earlier article are usually present in unmodified honeys but may be wholly lacking in the event that the beekeeper has abused his honey in some fashion. But it is, of course, improper in any real definition of honey to attempt to include changes not brought about by bees but due to mishandling by man.

### Product of Honeybees Only

Honey is the product of honeybees alone and there is never justification for the use of this word for any product of human manufacture or as the result of the work of any animal except the bees. In the official definition, honey of the giant bee was originally included, as well as that of the common honeybee. Older readers will recall that Mr. Frank Benton,

formerly in charge of the beekeeping work of the Division of Entomology at Washington, was interested in the introduction of the giant bees to this country. He made a trip to India in the early '80's for these bees, and again in 1905 was sent by the Bureau of Entomology on a trip for them which proved unsuccessful. When the official chemists were engaged in preparing the definition for the enforcement of the food and drugs act previous to his last trip, Mr. Benton requested them to include the honey of the giant bee also, in perhaps a hope that he might get these bees to our shores. In any event, no harm seems to come from including these bees, for in their home lands they produce honey, and some of it might perchance reach us some day. We do not have them now and probably have no use for them, now that more is known about them. Which is another story.

From time to time in the past, the word honey has been applied to material other than those produced by the bees. For example, as a boy I used to eat a preserve known as "quince honey," a material quite good to eat and called "honey" because it was sweet and so unusually good. Such a use of the word "honey" is not justified and if it were proposed to use this word in connection with a marketed food material not made by bees, beekeepers would be more than justified in raising objection to the authorities administering the food and drugs act. In fact, application was recently made for the registering of a trade mark for the use of the word "honey" in connection with an inferior sweet, and abundant protests were piled on the officials administering such matters.

### Court Decisions Relating to Honey

Naturally a material like honey has occasionally entered into decisions of courts, although in this country we have apparently not been handicapped by such attempted court definitions. The court cases in this country have admitted by implication if not by direct statement, that honey is solely a product of the bees. However, a few years ago in Germany one of the imperial courts rendered a decision which for a time stirred up beekeepers and others. A dealer put on the market a product labeled honey which was found on examination to contain a large percentage of sucrose. Feeding bees with sugar syrup had resulted in a material containing less sucrose than that contained in this so-called honey, so it was claimed that the culprit before the court had added sugar syrup, either to honey or to sugar syrup fed to bees. To the consternation of the beekeepers, the court ruled that the addition of sugar syrup was adulteration, but that sugar fed to bees may become honey, just as material fed to a cow may become milk. The knowledge of insect physiology possessed by this judge must have been fearfully evolved, for such a comparison is the height of absurdity. Fortunately later regulations of the German food authorities have overthrown this decision, which is no longer bothersome.

One court case, arising in the administration of the food and drugs act, hinged for a time in the amount of mineral material in a certain honey. In this instance the honey was of such a character that one would expect a fairly high ash content, but it was actually low in ash, and the government charged that invert sugar had been added to honey. In this case also the honey was caramelized, which would also usually be true if invert sugar is added. The defendant brought in "expert" witnesses who testified that the honey had been boiled, which anybody who knows anything about honey would realize is not a common market practice. Finally the pressure of facts became too much for the defendant and his council and the case was hastily settled out of court. This is rather a pity, for it meant that there was no court decision on the validity of a limitation of ash content for honey.

### The Definition

With all these difficulties in mind, let us see if a safe and satisfactory definition can not be developed. This definition might not suit the food chemist and may be far from suggesting the many virtues inherent in honey, but to give a proper designation of the real goodness of honey, one would need to wax poetic. For all practical purposes, the following may be useful:

Honey is an aromatic, viscid sweet material derived from the nectar of plants through the collection of honeybees, modified by them for food into a denser liquid and finally stored by them in their combs, of acid reaction, liquid in its original condition but usually becoming crystalline on standing, consisting chiefly of two simple sugars, dextrose and levulose, with occasionally more complex carbohydrates, with

levulose usually predominant, and always when unmodified by human manipulation containing mineral material, plant coloring materials, several enzymes and included pollen grains.

Frequently a dictionary gives more than one definition, the first one being usually the most comprehensive. To compensate for the coldness of the foregoing we might add the second definition, as follows: Honey is the best sweet, used as food by bees and by the more favored members of the human family, derived by the bee from nectar, the food of the gods. And even this fails to tell the story.

Ithaca, N. Y.

# Good Future Honey Country

David I. Day

*Extreme Northern Portion of Minnesota Offers Great Possibilities for Honey Production*

One of the interesting beekeepers of Minnesota is Mr. P. N. Tri, superintendent of the Humboldt high school at Humboldt. He is full of beekeeping enthusiasm and it is only a matter of time until he deserts the school room for the apiaries. Certainly, men of his high type can only increase the prestige of the honey-producing business.

"In another year," he says, "I hope to quit school work and stay at the bees, entirely. The trouble with me has been that I have had to resort entirely to hired help, outside of my own spare time. So I have waited until my son grew older before leaving the teaching ranks."

A few years ago, Mr. Tri, in common with thousands of others, bought a high-priced farm and has been laboring under the load since, just as others have been doing in all agricultural communities. Under the circumstances, his salary of $2000 yearly looked good. Now, he sees better times ahead and is thinking more of the beekeeper and of his activities. He is operating this year on a 300-colony basis.

These comments on the work and plans of Mr. Tri are made because they lead up to what is really the message of this article—that northern Minnesota, the home country of this fine teacher-beekeeper is truly a land of promise. In driving through this region, it is easy to see that much of this cut-over country and other parts of northern Minnesota offers what seems to be an outstanding opportunity to the skilful beekeeper. There is a riot of honey-producing flowers in summer, the land in many counties is cheap, and the roads are good. There are some parts where population is very sparse and the

Mr. P. N. Tri, Humboldt, Minnesota, in his home apiary.

snows in winter are often deep. Wintering is undoubtedly the biggest problem, but the success attending the scattered efforts of beemen there is evidence enough that a fine chance there awaits others.

**Assistance from State University**

Mr. Tri is one of those who is able to visualize a greater beekeeping future for that region. Others, whose success can be emulated by other beekeepers, are Mr. C. E. Boreen of Duluth and Mr. Austin Johnson, who lives at Little Fork, a short distance south of International Falls, on the Canadian border. These men and others of ability have found that the sympathetic and understanding assistance of the University of Minnesota is back of every effort to improve and expand the production of honey in the northern counties of the state, north of a line through Duluth on up to Rainy River. There is little doubt but that if that part of the country develops its full possibilities in beekeeping, the University will be entitled to a share of the credit.

Not long ago, Prof. M. C. Tanquary, in charge of beekeeping for the University, made this statement: "While the college has not made any special survey of our northern counties with the idea of encouraging beekeepers to settle there, we have been gathering what information we could with regard to beekeeping possibilities in that region. There is a great deal of this territory which would make a good honey producing region. There are two principal honey plants in abundance, sweet clover, and alsike. There is also a considerable amount of fireweed and, in some places, wild raspberry."

**Alsike Clover in the Iron Country**

In driving out of Duluth toward International Falls, the good highway leads through what is probably the highest land in the state, where iron ore is mined in great quantities. In fact, the region through which you pass, for example at the town of Virginia, is known for some of the greatest iron mines in the world. To the east and northeast are great areas of national forest and privately-owned timber. After passing Virginia, the abundance of alsike, some fireweed and wild raspberry, and numerous other flowers, first suggest the honey possibilities.

These natural advantages continue until International Falls is reached. However, they are more utilized at the border. There are quite a number of apiaries in the vicinity of this little city. Crossing the bridge into Canada, we found plenty of white beehives in the neighborhood on the Canadian side of Rainy River. Everything seems to favor this far northern part of the United States for beekeepers who know their business and can winter their colonies successfully.

The road along the shore of Rainy River continues to present evidences on every hand of beekeeping possibilities. Not a great distance from Rainy River, one afternoon, we drove through what had seemingly been cut-over and burned-over territory. Not many years ago, doubtless, great forests of evergreen grew there. Sawmills came and cut out all save the small trees and the underbrush. Then, a forest fire swept through. The black trunks of the trees, some of them leaning against others, presented a rather ghostlike picture. In contrast, however, was the great carpet of flowers of every hue. Investigation showed plenty of sweet clover, some alsike, some fireweed, together

One of Mr. Tri's out-apiaries as it appeared in the midst of the honey flow.

A view of Rainy River, flowing through a real honey land of the future. Canada on one shore, United States on the other.

with a dozen other varieties of nectar-producing plants. We did not see even a wild bee at work in this particular place, although they may be common enough elsewhere. The thought came of the millions of dollars' worth of honey, first and last, which has gone to waste in this land of clear skies and clear lakes.

**Sweet Clover Abundant in West Portion**

It was interesting to note that when we reached northwestern Minnesota, around Thief River Falls, and on south and east to Bemidji, we saw worlds of sweet clover but little of the alsike of counties to the east. It seems that the fellow desirous of producing a prime sweet clover honey ought to be at home in those Minnesota counties, between the great Red Lakes and the North Dakota line.

The mention of North Dakota recalls that Grand Forks, seat of the University of North Dakota, is but a short drive west of Thief River Falls and Red Lake Falls in Minnesota. Surrounding Grand Forks is a most progressive country, known everywhere for great wheat fields and for some great turkey farms. It is also worthy of note as a honey-producing part of the northwest and, perhaps, in some future article, we will tell of some of the honey men and the honey farms of the Red River Valley, within an hour's drive of Grand Forks.

Chrisney, Indiana.

# The Last Landmark

E. R. Root

## The House Apiary and Why It Was Abandoned and Finally Moved Away

When we built the new woodworking shop that now covers nearly all of what was the old bee yard with its luxuriance of grape vines, we had to remove not only the evergreens, the bee hives and the vines, but also the house apiary that stood in one corner of the lot. When A. I. Root plotted "The Home of the Honeybees," as is shown in the frontispiece of the first editions of the A B C and X Y Z of Bee Culture, he had a dream of a beauty spot that would carry out his ideas of a bee yard laid out in plots each six-sided like the cells of a honeycomb. In the center of these hexagons each having sixty colonies, he placed a flag pole.

Around the whole yard he planted a hedge of Norway spruces for a windbreak which he reasoned would grow in size, making an effective protection against the wintery blasts, and it did. On the south

side of each hive he planted a grape vine which was held up by a trellis just big enough to afford shade for the hive in the hot summer months. In winter the leaves would be gone and the hives would be in the sun when the bees needed it.

Each hexagon was marked out by a gravel path and the series of hexagons were surrounded by a circle of gravel. In the corner of the enclosure of evergreens and just out of the circle, A. I. Root placed his house apiary. When the whole thing was completed he wrote a story about it entitled, "Ain't it pretty?" and it was.

**Beauty Spot Gives Way to Progress**

Owing to a general expansion of a growing and more diversified business, the time came when this beautiful park with its evergreens, grape vines, bee hives, paths marked off like a honeycomb, and the house apiary had to give way to a brick and steel structure that covers more ground than any of its fellows, covering almost all of the whole apiary that was once the dream and pride of A. I. Root. The beautiful and artistic had to give place to the severely practical with all its noise-making machinery. I am reminded of this now when Mrs. Root and our three-months' old granddaughter are awakened by the turning on of a large machine that sends out its roar—a noise that is, by no means, as soft as the hum of the bees and the songs of birds that lived among those evergreens.

When these spruce trees, stalwart landmarks of A. I. Root's dream, were being uprooted by the boom of big sticks of dynamite, and the grape vines that had for forty years shaded the bees were being yanked out by tractors; when the steam shovel and the derrick were doing their work of effacing and changing, Mr. Demuth came to me and asked what we were planning to do with the vine-covered house-apiary. "Will that be next?" "Yes," I said, "that will be next. We don't keep bees in it now. We are going to give it to a workman for removing it. It is in the way of the new building." A look of sadness came over his face as he thought of its being one of A. I. Root's playthings in his general scheme of research work. With that he begged for a photograph of it before it was removed. The ever ready Graflex was brought to bear and the picture appears on the front cover page of this issue.

This eight-sided structure was built as a small grist mill sixty years ago by A. I. Root. Fate had not decided at that time whether he should continue as a manufacturing jeweler, a miller, a poultry raiser or turn the bee world upside down by his ideas on bees.

**Formerly Used as a Grist Mill**

He put a big windmill on top of his factory for making jewelry and later, bee hives. Sometimes it wouldn't run when he wanted the power; but when it did run at night, he had to give it something to do so he put up this small grist mill. It was always in gear at night and when the wind blew in the dark hours the windmill would pay its way. In the day time it was employed for making bee hives. If the wind did not blow and orders were pressing, father would get me up at night when the wind was blowing and we would get out the hives.

**Used in Early-day Experimental Work**

When fate fully decided that the jewelry business and the feed grinding should go, A. I. Root decided to move the mill "down home" and make a house-apiary out of it and with this he did some of his best research work. He thought he could winter bees in this building by making it double-walled and using artificial heat. By having the extractor in the center of this octagonal building, he would house fifty hives within arm's reach. Whatever the weather was outside, he would work the bees inside. The thing looked so good that when he built his second bee hive factory down by the railroad tracks, he moved the house apiary the second time. It was put in the corner of the "beauty spot," as shown in the first editions of the A B C and X Y Z of Bee Culture

**Experiments with Artificial Heat in Wintering**

In this building A. I. Root used artificial heat to warm up the room where the bees were being wintered. The bees could fly from the entrances at any time the weather was suitable. It looked like a good scheme, but we now know that artificial heat for bees being wintered either out-of-doors or inside, when they can't fly every day, is a mistake. The heat causes the bees to become active and keeps up brood-rearing, more or less, and, when bees can not fly, the result is disastrous.

About the time A. I. Root was testing artificial heat in the early 70's in the house apiary, he tried covering nearly all his colonies for one winter with a big heap of common stable manure. The ma-

nure would afford winter protection and generate heat through chemical action. The experiment resulted in a heavy loss of bees.

**Hives of Whole Apiary Only Few Feet from Extractor**

The scheme of extracting in the building was good so far as getting the combs from the hives was concerned, but not so good for getting the bees off the combs in the building. With the modern bee-escape, then unknown, the difficulty might have been overcome. It became more and more apparent, however, that it was easier and more pleasant to operate bees out-of-doors and so the house for holding bees was abandoned.

There was another reason for this. The entrances so close together and all alike tended to confuse the bees. The young bees especially would be apt to go into the entrance where most bees were flying. The strong would become too strong and the weak would become weaker.

But there was one strong point in favor of the house apiary. Cross bees put into the buildings could be handled easily. Once out in the room they would fly out the door and to the entrance. No bee veil was needed inside.

In the picture of this building taken just before it was taken away, will be seen on the left a part of the original apiary that had to give way to the new building. On the immediate right are piled hive stands for the out-of-door bees.

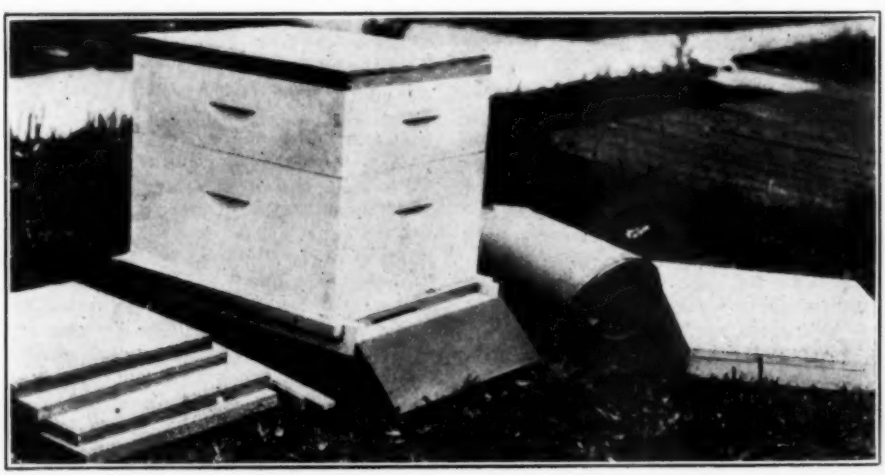
# Simplified Winter Protection

**Joseph M. Barr**

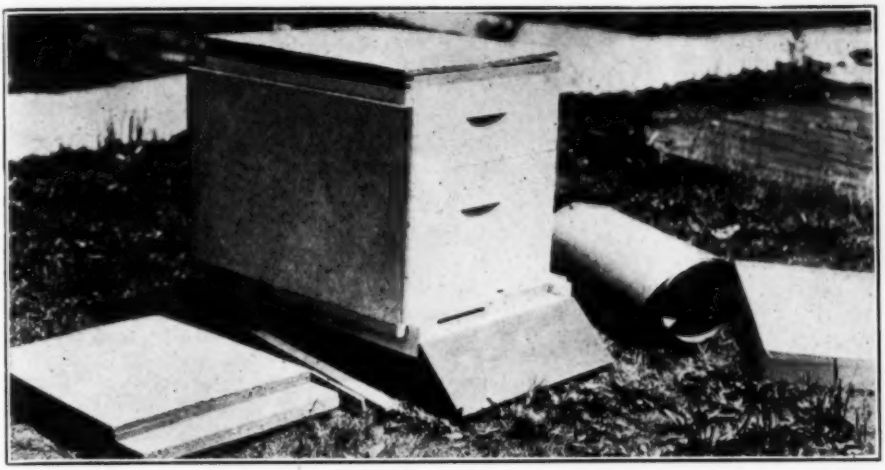
*Packing Bees with Less Labor and Without Handling Loose Packing Material*

Some years ago I wrote an article, which was published in Gleanings, describing my use of Celotex in wintering. Careful observation for years has proven the value of this material for insulating. We can rapidly assemble our cases, and labor costs are trifling; but the problem of storage in a dry, vermin-proof room has troubled.

The accompanying illustrations show a new and cheaper method of using the Celotex, and the sections, because of their size, can be more easily and conveniently stored. On my visit to Medina, Ohio, this summer, we assembled and packed a hive for winter in exactly three minutes, and did not hurry at that. The first cost for Celotex will be the last in the life time of any beekeeper. The annual cost will be the price of a strip of



**Hive ready for packing. All the material used for packing is shown in this picture. Note that cleats have been nailed to the bottom-board on each side and on the back to support the sheets of Celotex.**



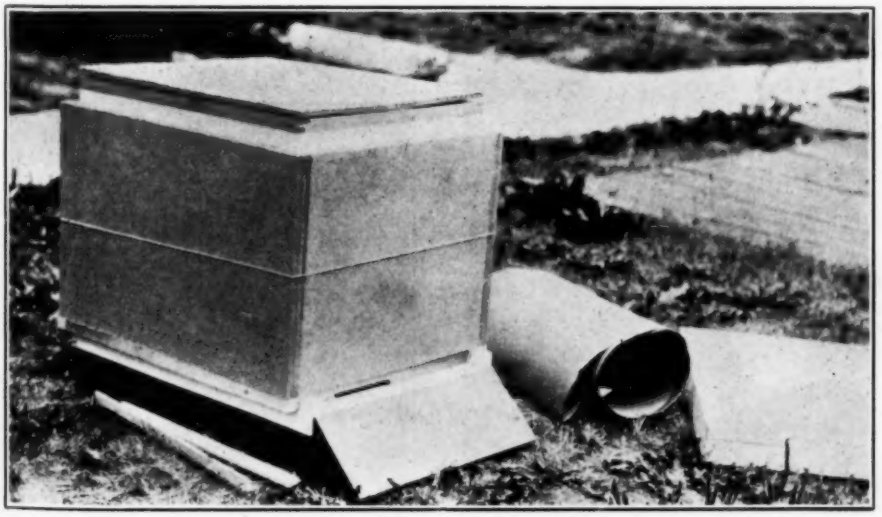
**One sheet of Celotex is here shown in place resting on the cleat nailed to the bottom-board. The entrance block is left part way out to support the front sheet of Celotex.**

tarred paper. Why use expensive, vermin-inviting cases and storages with their fire hazards, and hope to winter our bees?

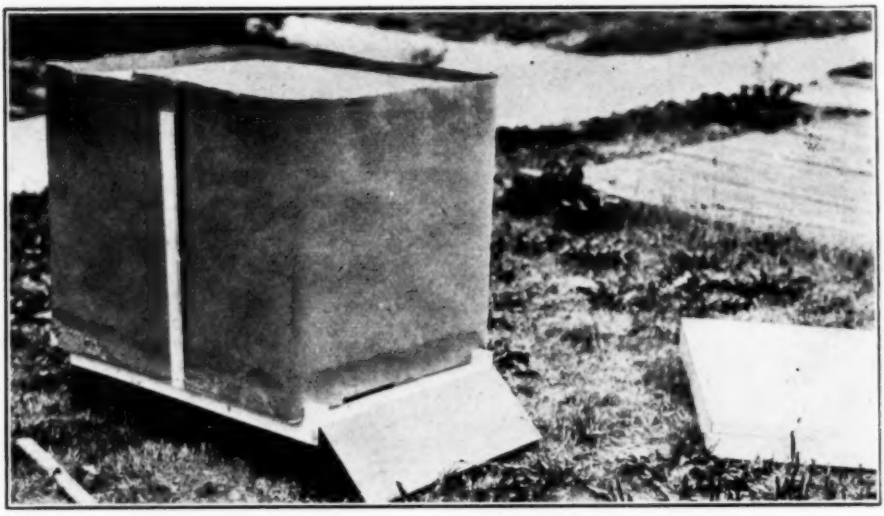
We give each colony a shallow super full of early gathered honey, about forty pounds; and if we have a young queen introduced not later than August 1, we winter successfully no matter how severe the winter may be. Wisconsin reports published last June show great losses from starvation. We never have to feed a pound. The colonies always have plenty, and a large percentage need an extra brood-chamber in early May.

Fig. 1 shows a hive placed on its stand and all the material required for packing. It is necessary to fill the inside of the stand with shavings or leaves. Note the three strips of lumber nailed flush with the top edge of the bottom board. Those strips are needed for the sections of Celotex to rest on. The regular entrance block is used for reducing the entrances.

Fig. 2 shows the Celotex in place on one



**Sides and ends covered with sheets of Celotex cut just the right size. The cord holds them in position until the sheet of tarred paper is put on.**



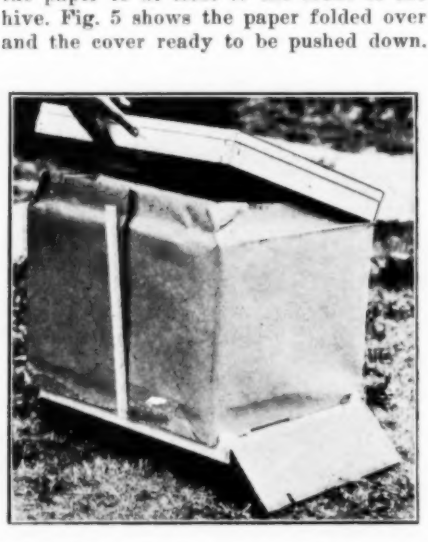
The side rails of the bottom-board are notched with a saw kerf at the front end to permit the tarred paper to drop down below the cleats nailed to the bottom-board.

side and on the top. We use two half-inch thicknesses on top. Unless in sheltered places, two are needed in Wisconsin. Further south one is sufficient.

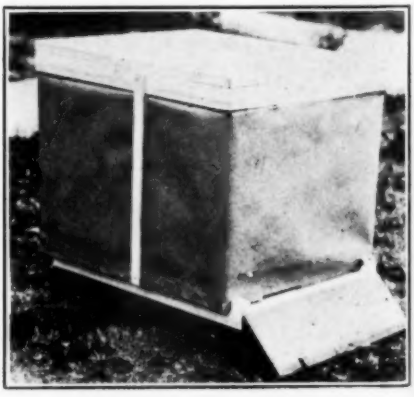
Fig. 3 shows all of the Celotex in place. Fig. 4 shows tarred paper wrapped and partly fastened by a strip. Note that a saw cut has been made in the projecting side rails of the bottom-board to allow the paper to fit close to the front of the hive. Fig. 5 shows the paper folded over and the cover ready to be pushed down. Fig. 6 shows the cover in place, and the top nail driven, securing cover in place.

I hope that beekeepers in different parts of the country will try this method and report results. There is no reason why we can not standardize our wintering as we standardize our equipment. We ought to be able to winter ninety-five per cent of our bees and have them strong on May 1. The secret for doing this is perfect insulation, young queens, and abundant stores. Insulation is a real problem and we are offering you a proven method.

West Allis, Wisconsin.



The paper is tucked in at the top in such a manner that the regular hive cover fits in place.



The completed job. The cover is held in place by a stick of wood on each side nailed to the cleat at the bottom and to the rim of the cover.

## Intelligence of Bees

ONE day a stranger called at our apiary. He had been here before, and we had discussed the intelligence of bees and the lack of it in some humans. This time I proposed to find out who he was, so after considerable pumping he said his name was John A. Rabbet and that his home was in Zephyr, Kansas. He said, "Of course they all call me Jack."

"But I came to tell you how I have been training my bees. You know you told me how bees carry water on hot days so they can evaporate it and keep the hive cool, and how bees shut in a house will carry honey to the screen so that those on the outside will reach in and get it. Well, that put me to thinking that if bees were that smart I could teach them to do most anything as I have been a teacher for forty years; and if you could only have seen some of the pupils I have taught, you would agree that teaching bees would indeed be a simple task in comparison.

"I have noticed that bees will find their hive when it has been moved a few inches so I proposed to move it a little farther each time till they could find it no matter how far it was moved. I loaded twenty-five colonies on a truck and moved it a little way so the bees could find their hives, then a little farther. I then drove the truck very slowly till they learned to keep up, and then drove it faster. After a time I could drive right along the road and the bees would forage the fields and come back to the road just at the right place to catch the truck, as long as I drove at a uniform speed of twenty miles per hour.

"After training them till they were expert at locating the truck, I waited till the sweet clover was at its best, then started northward driving just fast enough to keep right in the height of the clover honey flow. The bees would take to the fields, and when they had a load they would come to the pavement exactly where I had the truck. I took off the comb honey at night and sold it to the groceries as we went along.

"I had only two mishaps on the trip from Kansas clear up to the border."

"Tell me about them," I said.

"The first one happened shortly after we got into South Dakota. I stopped at a filling station to get some gas and found the proprietor had gone to dinner. As the gas was low I had to wait, and it was some time before I was on the way. Then I got a puncture which caused another delay so that by the time I got things lined up and going the bees were many miles ahead. I wondered what the bees would do when they got loaded up. I speeded up the truck and just at dusk caught up with them. They had built combs to the wire fence and deposited the honey in them waiting for me to come up. As soon as they saw the truck coming they sucked the honey out of the

**The bees worked in the sweet clover fields ahead of the truck, and, if the truck was not on time, they had to wait until it arrived to deposit their loads. But they made a terrible mistake when a milk truck happened along at just the right time.**

combs and deposited it in their hives. But I had to close the cab windows to keep them out, they were so cross at having to wait."

"Tell me about the other experience," I remarked.

"This happened a few days later. I stopped in a little patch of box elder trees on a tree claim to eat my lunch, intending to make up the time lost so as to overtake the bees at the right time. But it so happened that just as I turned into the grove, along came another Chevy truck just like mine only it was loaded with empty milk cans. The bees were so busy

(Continued on page 598.)

# From the Field of Experience

## RETIRING WITH BEES

### Useful and Pleasant Work for the Twilight Period of Life

They shall sit every man under his vine and under his fig tree; and none shall make them afraid: for the mouth of the Lord of hosts hath spoken it.—Micah, 4:4.

These are days of very much organization. Kindred minds bind themselves together in varied forms of closely or loosely constructed fraternities for the mutual improvement of its members or the advancement of an idea until there is hardly a field of thought that is not grouped into some form of organization.

An interesting letter just received from a minister, has put my mind to thinking in terms of mutual mindedness among ministerial men and I have wondered how many there are of the sacred calling who are now engaged in bee culture and are using their spare time working out dreams of eventually occupying a home of their own amid the music of the hum of the honeybee and the flowers and shrubbery of their own planting. This interesting letter says:

"I have read your very interesting article in the July issue of Gleanings in Bee Culture and was very favorably impressed with it. I am working along the same line as a pastime and am having good success. I would be glad to receive a picture of your apiary and shall send you one of my own when it has been put in condition. Should you ever happen to be in reach of the above address stop and visit me."

This is the spirit that makes this world worth living in. Kindred minds, like birds of a feather, flock together. There is a phase of the minister's life that so far as I know is seldom touched upon in any of the religious trade journals or in any periodicals that in any way represent church activities.

Sacred literature is so burdened with the necessities of this present period that little if any attention is given to help ministers plan for the twilight period of their lives that they might gratify the natural homing instinct and dwell serenely amid the glow and glory of the setting sun of years of useful service to mankind.

Many, therefore, have come to years of infirmity and retirement with no well defined plans, and though rough has often been their financial road during years of effective relationship, even more rough have been the years of retirement. Spending one's spare time in laying practical plans for this period of one's earthly sojourn seems to me to be as thoroughly in keeping with the spirit of Christian thought as is any other phase of life.

If Edgar Guest is right when he says, "It takes a heap of living to make a house a home," it is equally true that it takes a heap of planning and planting to make a home. The slogan advanced by the nurserymen to the effect that it is not a home until it is planted is very true. Some types of ornamental trees and shrubs require years to develop.

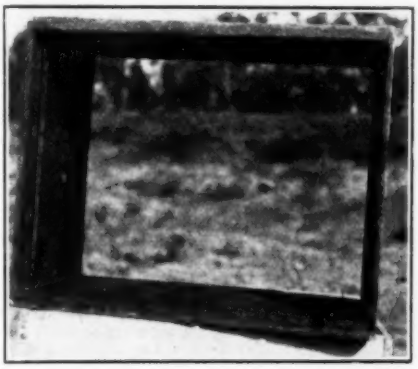
A proper arrangement of well painted beehives lends itself very readily to landscape possibilities, and may afford a source of income to supply some of the necessary funds for such development. Doubtless many ministers have come to realize this, and are already spending their spare time and vacation periods in working out plans that in the future may prove a source of great convenience and joy.

Letters like the one here quoted will be read with much interest by the writer and possibly there might automatically develop a kind of loosely constructed fraternity among the ministers who love bees, gardens and God's fine out-of-doors, and who plan and dream of a time when they shall rest under their own vine and fig tree.—Rev. J. R. Stelle, Montpelier, Ind.

## DISINFECTING HIVES

### An Efficient Method of Fighting Disease With a Blow Torch

The work of cleaning up and disinfecting after an attack of foul brood involves a great deal more than properly disposing of the combs and the frames. Of course, the disposition of the combs and the frames is the most important item of work; but if hive bodies, covers and bottom boards are not thoroughly disinfected, the disease will recur and be spread through the apiary wherever any of the infected parts are used.



Hive-body badly damaged by burning, yet not properly disinfected.

One method of treating hive bodies is to stack them up, without frames, of course, and burn them out; using straw, newspapers, or some other highly inflammable material for the purpose. The trouble with this method is that it does not accomplish what it is intended to do—it does not thoroughly disinfect. But it does damage the hives by charring the boards and weakening the joints.

A glance at the picture of the hive-body shown on this page shows very plainly that it has been permanently injured by burning. But the picture does not show the worst; and that is, the edges of the boards and the surfaces inside the rabbets were not touched by the flames. In other words, the beekeeper who did this work succeeded only in damaging his hive without thoroughly disinfecting it.

The next picture shows the blow torch in position to send the flame down into

Directing the flame into the rabbets and corners insures complete disinfection of these parts.

Bottoms and covers are quickly disinfected by the sweep of a strong flame somewhat as a paint brush is used.

the rabbet where it will touch and sear every corner and groove. Hives that have been used several years will have more or less of propolis in the rabbets. The hot blue flame of the blow torch will very quickly melt this propolis and set it on fire. There is no particular danger of injuring the hive with the torch, unless it is held in one position too long. With a little experience the operator soon learns to move the flame back and forth in the rabbets and along the edges of the sides and ends of the hive in such a manner as to scorch every part without the least injury to the wood.

When it comes to the broad surfaces inside the hive, the flame is equally effective; though it is always necessary to

scorch every part of the inside of the hive before the work can be considered complete. If the flame is used as if it were a paint brush, with the air pressure good and strong, so as to send out a large flame, the work will not require much time.

A good pair of fire-proof leather gloves will protect the hands of the operator from burns, and will enable him to do the work in much less time than if he undertakes to do it without protection.

The blow torch is especially useful in disinfecting covers and bottom-boards. A careful scraping of these parts in order to clean out all corners will greatly help in doing a good job with the torch.

A good rule to follow is to use the blow torch on every hive-body and every cover and bottom-board before it is put into service, if it has ever been used by the bees. This is a good rule, no matter whether foul brood has ever been discovered in the apiary or not. Better be safe than sorry.

In parts of the country where disease is known to be prevalent, the blow torch should be a necessary part of the beekeeper's equipment. As a weapon for fighting disease, it is unequaled.—Robert B. McCain, Lompoc, Calif.

## WIDE ALIGHTING BOARDS

### Arrangement to Keep Down Weeds and Grass Around the Entrance

Keeping the grass and weeds down around the entrance to the hives is an irksome job and one that requires attention at a very busy time. The simplest, and, to my mind, the most satisfactory solution to this problem lies in the use of an alighting board so large that cutting down the grass is unnecessary.

I use a combined stand and alighting board similar to that made by the supply dealers except that the alighting board is two feet wide and eighteen inches deep. This sounds expensive, but rough, unplaned boarding ⅝" thick by 6" wide, thoroughly soaked in creosote and nailed to a framework of 1" by 3" material makes a thoroughly efficient job at a less cost per stand than that at which I can buy the standard article.

For these stands to be really efficient they must be supported a few inches off the ground, otherwise the creeping grass may form a mat on the edge of the alighting board and eventually spread all over it.

Two rails of 1" by 3", four feet long, have pegs nailed on each end at right angles, which are driven into the ground. These pegs are the waste bits left over when the stand rails are cut to give a slope to the alighting board.

In each pair of hives the alighting boards touch at the sides and form one big alighting board four feet wide and eighteen inches deep. As these alighting boards are considerably wider than the hives, there is plenty of room between the hives themselves.

Owing to the size of the alighting board, the slope is very gradual, and there are three or four inches of unsupported board between the junction with the front of the bottom board and the stand rails. This gap should be filled with the tips of the pegs already mentioned which will fit exactly. If this is not done, the wood may warp a little and make a bad fit with the bottom-board entrance.

Apart from their original purpose of keeping the entrance clear from obstruction, I find them very useful when any shaking of bees has to be done, as during a careful search for queen cells, artificial swarming, etc.; but before any shaking is done the stand should be moved an inch or two so that there is a small gap betwen the two alighting boards, otherwise bees and occasionally the queen, may run up into the wrong hive.—E. W. Madoc, Norfolk, England.

## DRONE COMBS ARE VALUABLE

### A Beekeeper Fisherman Discovers a New Use for Drones

A good definition for a weed is: a plant growing where it is not wanted. Sweet clover and many other plants were considered noxious weeds till some particular use was found for them. Gasoline was discarded in the early distillation of crude oil, but the invention of the internal combustion engine made it the element of first importance of crude oil. Corn sugar was a by-product till after Volstead got to be known outside his particular congressional district, and corn sugar will be of still more importance if the pure food law is broken down. Drones have been in the same category as weeds, and worse than a by-product. To find a good use for the superfluous drones should revolutionize the beekeeping industry.

"Old Drone" has missed his "Acres of Diamonds." This poor, deluded fisherman has been all over the bee world trying to

find an easy way to wealth and laxity so he could spend more time fishing and hunting, and has missed the one diamond that would have taken him and Ab from the lumber yard and given them a vocation to their liking. Probably they will elect me to their fraternity and take me with them on their fishing trips.

Any great discovery or movement, however, will work hardships in some directions. The electric light was hard on the coal oil people; the automobile nearly put the blacksmith out of business; bobbed hair ruined the hairpin industry; and now, this finding a use for drones will make 3-ply and wired foundation obsolete.

An article in the Saturday Evening Post of July 12, on "Fish Bait" gave me the idea. This full page article lauds the unemerged yellow jackets as the best bait for nearly all varieties of fresh water fish. As I have grown too heavy to hunt and too lazy to dig worms, and, since necessity is the mother of invention, this yellow jacket business gave me a thought: if jellow jackets are a dainty morsel for fish, why not unemerged drones?

Like "Old Drone," when I do get a new idea, which Mrs. Kohn says is very rare, I have to give it an immediate test. Armed with a can of worms, a bucket of white grubs (rather skeptical, I admit) and a frame of brood, neither wired nor 3-ply, we went to a little lake north of Ann Arbor, Michigan, for blue gills. Prizes were offered for the first fish, the largest fish, the most fish, and the largest variety. I won them all. By the way, the varieties consisted of blue gills and one perch.

Now, for the *modus operandi*: A long slender pole, a black line, a small hook, 18 feet of water and fish (noun and verb) near the bottom. Be sure to have a man in another boat to take the fish to shore and two good men on the banks to clean the fish. Load your pipe before commencing as you will not have time afterwards. Lay the frame of brood on the seat beside you. Uncap a drone and with the knife blade inserted below the drone, lift him out of his cell. Start him on the hook at the stinger end, if he had one, and leave the point of the hook in the comparatively hard head.

We had success with the drones and also the worker bees in all stages of development, just so they were mature enough to stay on the hook. Those coming out of the cell were very good, but to get them at the stage when the head was turning pink seemed to be the best.

On a future trip I expect to use trapped drones. I believe they will make fine bait. If so, the damage I have done to the foundation manufacturers may be compensated by the benefit to the manufacturers of drone traps.—Dr. Ernest Kohn, Grover Hill, Ohio.

## BEHAVIOR OF OLD QUEEN

### Takes a Last Look at Outside World Before Final Hour

Young queens, like girls, take life mostly blithe and frisky. In contrast to this flame of youth, in the hive as well as the home, are life's last days of living in either realm. One wonders, in musing about the hive, what a laying queen gets out of her existence. It may be known how old queens normally die. More likely than not they simply and feebly expire. But that some queens presage their end, perhaps, is here suggested.

Late one afternoon I stood looking down a row of hives. The bees were in, and a damp spring chill was falling. Only an occasional worker showed at scattered entrances. But on one alighting-board was a group of bees that attracted attention. Closer inspection revealed a small, dark queen, encircled by her attendants.

I remembered having examined that hive. The hive record indicated the queen was old and should have been replaced. No sign of definite supersedure, however, was apparent when inspected. But the old queen was, unmistakably, past all efficiency. I watched this queen, out in the dusk amid her retinue.

At first, she stood very still; her attendants stood similarly. For several minutes neither queen nor workers seemed even to twitch a leg. Then, turning slowly, the queen took a few deliberate steps, escort conforming. Again the queen stood motionless at least a minute. Once or twice thereafter the queen moved feebly about, then tottered back into the hive, attendants following. In half a minute the queen again appeared, crawling slowly to the outermost edge of the alighting-board. Hesitating here for several seconds, she returned once more within the hive, without reappearing while I waited.

This queen, I sensed, hadn't many days to live. Did she desire again to see the world of light before her final hour?

Would she breath her last in the dark interior, or come out once more to die? I wondered, too, why the workers had taken no definite step to replace this worn-out mother of the colony when she so obviously was failing.

Several days later I again went through that hive. The queen was found to have disappeared, and cells, at last, were started. I like to think I saw this queen whose span of service was over, taking life's last look into the light before darkness closed forever.—Wm. H. Wolford, Schoharie, N. Y.

## POLLEN IN WINTER STORES

### Further Observations on the Relation of Pollen to Dysentery

What is the substance in honey that causes dysentery of bees? A report on some previous observations was printed in the November, 1929, issue of Gleanings in Bee Culture, and now that the observations reported at that time have been checked with further observations giving similar results, it seems quite evident that pollen itself is not responsible for dysentery.

In our previous experiments there was an indication that tulip tree honey contained the elements which are responsible for dysentery. The honey was furnished us by Mr. Jas. I. Hambleton of the Bee Culture Laboratory at Washington, and after diluting the honey with water so that it could be filtered, the pollen was removed from one-half the honey available by means of filter paper pulp and suction. Both filtered and unfiltered honey were fed to a group of colonies stored in a winter cellar. At the same time, similar experiments were run on honey from the Dadant apiaries in the Mississippi bottom lands at Hamilton, Ill.

Dysentery developed with every colony to which these honeys were fed, but the trouble appeared earlier and was more severe in those colonies fed with the tulip tree honey. Colonies fed on pure Wisconsin honey did not show any indications of dysentery.

We can therefore conclude with a certain degree of safety that pollen is not responsible for dysentery, and that there is some other substance occurring in the honey which is responsible for its development among bees in winter storage.—H. F. Wilson, Madison, Wis.

## PASTING LABELS TO TIN

### How to Make Paste That Will Eliminate Trouble from Loose Labels

One of the perennial sources of inquiries from beginners in the production and sale of honey is the fact that ordinary pastes will not stick paper to tin. Every few months I come across in some of the bee journals an inquiry from some subscriber who wants to know how he may make the labels stick to his tin pails. He does not always get a very satisfactory reply to this inquiry. In fact, I have known some of the answers to be quite misleading.

He is fortunate if he is told that a special paste is required, even if he is not told where to get or how to make this paste. Some of the label manufacturers advertise paste for this purpose. I presume most of this is good, though I know that some of it has not been. Besides, the man with only a few labels to put on does not like to have to buy a quart of paste for this purpose.

Somewhere around twenty years ago I told the readers of Gleanings how to modify paste so that it would make labels stick to tin. A new generation is reading its pages now and it is time to tell it over again. The method I advocated then was to add a small quantity of honey to any good paste.

This was quite satisfactory and I still use this plan occasionally when I have only a few labels to put on. But years of experience have taught me that it is better to incorporate the honey with the paste at the time it is made, and that the paste I make myself is superior to any that I have been able to buy. I label a great many pails every year and the labels all stick.

In the first place, do not try to use ordinary kitchen utensils for paste making. You do not want it in any such quantity. You can make paste that will keep reasonably well, but it is much better when freshly made and it is very little trouble to make it as needed, if you go at it right.

Make a paste can by cutting the top out of the smallest tin can you can find. The small size evaporated milk can is good, though a still smaller one is better.

Put into this a small quantity, say a teaspoonful or so, of white wheat flour. Add to this about an equal bulk of honey, and with a small wooden paddle mix thoroughly. It should make a rather soft

dough. If too thin, add flour. If too thick, more honey. Add to this about four or five times its bulk of water, preferably hot water. Boil a minute or two, stirring well. This should make a rather heavy paste, thick enough so that it will just spread well when cold.

In pasting labels, put them in two piles, face down. Paste the tops of both piles, paying particular attention to the corners. Put on one of these labels, pressing down well. Wiping the edges with a damp cloth will make a better and neater job. Paste the third label before putting on the second and continue in this way, giving each label a little time to soften from the paste before it is put on. Very large labels may be pasted only at the ends, if you wish.

Although the addition of honey to paste is not necessary for labels to be pasted on glass, this paste works perfectly for that purpose.

This paste will keep in good condition for several days, if protected from the air. If a little powdered alum, or almost any good antiseptic is added, it may be kept for longer periods, though it is better when freshly made.—J. A. Green, Grand Junction, Colo.

## GREAT BEEKEEPING LIBRARY

### The Colonel Walker Collection on Display at Miller Memorial Library

Those beekeepers who were able to attend the Wisconsin Beekeeping Chautauqua enjoyed a great treat in looking over the Colonel Walker collection of books on beekeeping now in the Miller Memorial Library here. Colonel Walker spent 40 years getting this collection together and the beekeeping world owes to him a great debt not only for collecting it and preserving it in wonderful shape, but also for having made many observations on the beekeeping literature and published notes from time to time in the British Bee Journal.

Every item in the Walker collection is bound in the finest of bindings and many of the volumes contain inserted sheets, bearing notes by Colonel Walker made with great care in a very fine handwriting giving almost the appearance of being printed.

Among other books is one printed in London in 1800 which is the original of America's second oldest bee book printed in 1803. Another book of interest in the Miller collection is one published in England in 1660 by Mr. Markham which contains directions for the prevention of swarming by the method so commonly recognized at the present time. His recommendation was to provide plenty of room for brood-rearing so that the bees would not become crowded.

The combined library facilities of the United States are now such as to give our American students fine facilities for research and should make it possible for us to become well acquainted with many facts previously discovered in Europe which are commonly considered as new when written about in this country.

In this connection we might mention that very fine collections of beekeeping literature may be found in the British Museum and in Brussels, Belgium; Paris, France; Berlin, Germany; and Milan, Italy, which have heretofore been outstandingly superior to the Miller collection. But we believe that the Miller collection will now compare very favorably with any of the libraries abroad.—H. F. Wilson, Madison, Wis.

## FOOD-CHAMBER IN MILD CLIMATE

### Cluster Confined to Lower Story During Coldest Weather by Building Paper

I winter my bees in the lower story with the upper story on. I place a sheet of heavy roofing paper between the upper and lower stories. The paper is the size of the outside of the hive and has a hole cut in one end two inches from the edge. The hole is ½" x 2" in size. I place the hole above the entrance of the hive to avoid a current of air passing through the cluster. This upper story is my food-chamber full of honey. The bees bring the honey down as they need it. They can surely tell of approaching bad weather and will move plenty of honey down before a storm.

I have been wintering bees this way for 16 or 17 years. I have been using the food-chamber for thirty years, but I never got the full benefit of it until I began using the roofing paper between.

The time to take the paper off is in the spring when you find a cluster of bees, say a quart, clustering at the bottom of the upper story and on the roofing paper, on cool mornings. If done at the proper time, it keeps bees from swarming.—R. Powell, Riverside, California.

# From North, East, West and South

## Southern California

Just been reading the reports from different parts of the country and guess that California can say, "Me, too." Fair to good, bad to fair, according to locality.

July saw the honey flow over most of our sage and wild buckwheat ranges come to a close in Southern California, for 1930. Five or six days of unusually hot weather caused the wild buckwheat and white sage blossoms to dry up much sooner than would have been the case had the weather continued mild and balmy with dewy nights as it had been. As it turned out, most beekeepers profited in a fair to good way, harvesting from thirty to ninety pounds per colony spring count. It was to these ranges and not to the oranges that the nine thousand colonies were moved. Some beekeepers will now move to the lima bean fields while others will move to the alfalfa seed districts. Bees in most cases are well supplied with stores for the winter, and beemen are inclined to leave a goodly amount of surplus on the hives, feeling that it is good insurance and an easy matter to take off or adjust any that might remain when the flow starts next spring. A few of the ranges have a growth of blue curl, which, in favorable seasons, gives some surplus or at least something for winter stores.

**Lack of Interest and Activity on the Part of Honey Buyers Makes it Difficult to Tell What Prices Will be Realized.**

There is little or no activity among the honey buyers and no one seems in a mood to even guess what the light amber honeys will bring. At a meeting of some of the leading honey producers it was decided to suggest to the producers of orange honey, that a fair price to expect for white orange honey would be nine or nine and one-half cents per pound f. o. b. their home place. All things considered, it was felt that if the beekeeper did not get that price it was a losing game in the long run. Some honeys can be produced for less money but any one who has tried producing orange honey knows that it costs more than most honeys to produce.

When we think it over, why should buyers not hesitate to buy at any but a safe price when conditions all over the country are so uncertain along agricultural lines? Things are sure to get running on an even keel again and the thing to do is to "keep-a-going."

One thing that the writer has noticed in his rambles among beekeepers is, better kept, neater and tidier yards, hives in better state of repair, hives that look as though they had a coat of paint sometimes, not so much "trash" lying around, grass and weeds cut out as a means of protection from fires, etc. This speaks of the owners' feeling of more pride in his business, which is always a good sign.—L. L. Andrews, Corona, Calif.

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## Northern California

July has passed and with it the season's prospects have dwindled. Weather too cool for good flows has prevailed and surplus will be considerably less than normal. It will have to warm up considerably or the thistle flow will be light. Cotton and alfalfa are yielding sparingly in the San Joaquin Valley. In the lower Sacramento Valley the conditions are very spotted with alfalfa. Purple and yellow star thistle, Lippia, spikeweed and tarweed are yielding lightly. In the upper Sacramento Valley star thistle and blue curl are giving a medium flow. In the Sierra foothills wild carrot is yielding lightly and snowberry is coming in. All over northern California the season has been disappointing, but prices are more discouraging than the crops. Honey ranges from 4 cents to 8 cents to the producer and real difficulty is experienced in finding a market.

**Bee Trees Are Not a Serious Obstacle in the Way of Cleaning Up American Foul Brood.**

"Bee trees" are the scare words used by those cold toward disease clean-up. Too frequently this idea is based on speculation rather than on investigation. In one of our mountain counties where hollow oaks abound we have three years' data on this subject. In this area three years ago 57% of all colonies in hives showed American foul brood and five apiaries containing more than one hundred

colonies had been completely wiped out by disease within the past five years. These records show that disease was rampant three years ago. Without exception every case of disease found was destroyed by burning three years ago. In this year's inspection not a single case of American foul brood was found. Three years ago fourteen bee trees were cut in this area, two of which were American foul brood. This month we cut seven trees located in all parts of the territory and no American foul brood was found in them. If bees on the ground are cleaned up, disease disappears. In the seven trees cut were found about seventy-five pounds of honey and most of this was in one tree.

About two thousand colonies were destroyed by grass and forest fires last year. Many reports of similar losses are coming in again this year. This loss is largely a personal one as only a few outfits are insured. Bees in locations where no fire hazard exists of course do not need to be insured, but where such danger is eminent insurance would be in order. Several companies will sell such insurance and reports are that payments are prompt and liberal.

The new label for use by Packing & Marketing, Inc., is a beauty. On a sky blue field is printed a navy blue diamond brand, twined California poppies in natural colors surround the words "Pure California Honey." Its color and design are superb. The packing plant is said to be of most modern design and is now one of Sacramento's show places. — Frank E. Todd, Sacramento, Calif.

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*Arizona* We have had general heavy rains over most of the state. Even though the main honey flow from mesquite and catsclaw is over for this year, the rains will benefit the beekeepers over the desert regions this fall. With the amount of rain we have had, there should be an abundance of various wild flowers this fall. Bees are gathering considerable pollen and a little honey at this date. They are also rearing brood heavily for this time of year. They will no doubt be swarming here within a short time. They should gather considerable honey this fall. If no surplus, they should be well supplied for winter.

Some producers report a little surplus from the second bloom of mesquite but I doubt if this is true everywhere. The cotton honey flow is on at present. It is reported there is less acreage of cotton in the Valley this year than last.

My crop here was about fifty per cent of normal. Although the crop was not large, I believe it will equal that of last year.

I have not heard of any large lots of honey being moved. Local markets and chain stores are holding the price of honey up to the same levels it sold for last season. Most producers are holding their honey for about the same price they received last season.—Leslie Wedgworth, Oracle, Arizona.

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*Texas* The weather for July has been very much more favorable to the bees throughout the whole of Texas than any preceding month of this year. Where it seemed that there could be no crop of honey and bees were in danger of starvation, conditions have so changed that the bees are in shape to go through the winter.

Reports from beekeepers throughout the state indicate a very low grade and a spotted yield of honey. In the commercial section of southwest Texas there was no crop made excepting in two or three isolated sections where local rains came, and yields were made from catsclaw and horsemint. In the cotton section the honey flow has already begun, but the beekeepers there do not believe they will make a normal crop. In the Brazos Valley and east Texas where the crop comes from hardwood and the later crop from cotton, the yield is reported as normal.

**Dealers Report That the Sales of Cans to Beekeepers for Packing Honey This Season Are Almost Up to Normal.**

It is rather hard in this day of transportation by motor to get any statistics as to honey production. Formerly the records of shipments by express and freight gave a very accurate idea of the amount of honey shipped. This source of information is gone, and about the only available way to estimate the honey crop is the number of cans bought. It was surprising when the dealers in cans reported that they had sold almost the normal amount of honey containers. It was gratifying to know that many of these containers went into localities where commercial honey production is new.

The hill country of central Texas produced a crop of mesquite honey. Throughout its general region mesquite made no honey this year.

The Texas Beekeepers' Association held its annual meeting July 28-29 at College Station. Three one-half day programs were given and the large audience enjoyed listening to a number of the best speakers in the beekeeping fraternity. The keynote of the meeting was co-operation not only among the beekeepers of Texas, but with those of the Southern States Conference and the American Honey Producers' League.—H. B. Parks, San Antonio, Texas.

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*Utah* Since my last report the unexpected has happened—a nice rain on July 10 gave us a very good honey flow for three weeks; but as the brood nests were nearly empty, that fact will cut down our surplus, but all beemen were glad to see the winter stores accumulate. Then the continued heat and drouth, weavel, thrups, grasshoppers and various other pests cut down the flow by August first to just a bare living. The second crop of alfalfa is nearly all cut and much of the sweet clover has dried up or gone to seed, but a fine rain of last night may bring on secondary bloom, and with very favorable weather we may still get a short flow, but my observations have been that when a flow once stops it takes the most favorable conditions to start it again.

I think most producers will be satisfied with one-half of a crop if the bees can get enough from now on to keep up normal breeding without drawing on their present stores. Many colonies had reached their peak by June first, then when there was only a bare living, breeding had slacked up, so, when the flow did come, they were down in brood and field bees.

Fifty packages which I got April 20 and put on full combs with plenty of honey, were just at the peak of condition on July 10, when the flow started and have made a better average as a whole than my old colonies. There is but little call for car lot shipments, and the offerings are not satisfactory. Whether the downward trend of all prices will keep a short crop at the present prices remains to be seen.—M. A. Gill, Hyrum, Utah.

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*British Columbia* The beekeeper's year is nearing the peak and after a very unusual winter, tardy and uncertain spring and abnormally late summer, present conditions seem to point to success and reward to the ever optimistic beekeeper. In these notes it is almost impossible to speak of conditions in British Columbia, and we can only deal with coast conditions until returns come in from interior points later on.

The flow from maple in the spring was most satisfactory and, fortunately, at that time the weather was also good. This was also the case during fruit bloom, and colonies in good shape at that time gave a good account of themselves. After this, however, hope dwindled, and honey prospects were very uncertain as the weather continued dull, windy and altogether unsatisfactory.

However, although no surplus was apparent, there was evidently enough to keep the bees in ample stores, as colonies were in excellent shape when clover yielded, which was nearly two weeks later than usual. For the last three weeks things have been most satisfactory and both clover and fireweed are yielding well and the bees are working early and late.

**Flavor in Honey is More Important Than Color and Density in Building Up Consumer Demand.**

Exhibition time is nearly here and honey displays in order, but we are no nearer the vexed question of real honey merits: Color versus flavor or density versus flavor. So long as honey can pass a satisfactory test for color and density, the most important thing from the purchaser's point of view is flavor. Color and density do not count one single point with a purchaser if the flavor is inferior. If we wish to popularize honey as a food the flavors must be the chief and most important consideration. Tasteless honey, however light and however thick, will not bring a repeat order, whereas honey with a delicious aroma and flavor will be sought again and again with not a thought for the color or density.

I have an opportunty of coming into contact with many and various users of honey, having sold over a ton retailed in glass and 5-pound tins within the last few months in my honey tea-room, and though British Columbia honey is noted for its density as well as flavor and color, the former would have no merit whatever against flavor.—Florence A. Greenwood, Vancouver, B. C.

*Wisconsin* A survey of beekeeping conditions in Wisconsin indicates that the 1930 honey crop will not be more than 50% of that secured in 1929. Wisconsin, because of a more or less open winter had some clover killed out, and the very hot weather during a good part of July materially reduced the amount of nectar that might have been secreted. Starting with a good many colonies of bees in poor condition, followed by an abnormal nectar flow, helped materially to reduce the crop for this season. Many of our beekeepers feel that they will be doing well to have sufficient stores for winter. A few report a normal crop, but the majority have definitely decided that the surplus will be below normal.

**Data from Experimental Work on Honey Now Being Compiled Should Help to Solve the Problem of Storing Honey Without Loss from Fermentation.**

The experimental work on honey being carried on by the Wisconsin Experiment Station is beginning to show something definite, and when the data has all been tabulated it is expected that some interesting information will be available on the relation of temperature to the storage of honey.

A general theory on how the physical changes in stored honey occur so that fermentation develops has been worked out, showing that as the dextrose crystallizes it gives up its moisture and this creates a diluted levulose which produces a condition favorable to the development of yeast spores.

The principal event of the summer in Wisconsin was the annual beekeepers' field meet and chautauqua, held in Madison, August 13 and 14, in co-operation with the University of Wisconsin and the Wisconsin State Beekeepers' Association.

Since it is just exactly 10 years ago that Doctor Miller died, this meeting was held in his honor and it is significant that in this year there has been accumulated in the Miller Memorial Library a collection of books and journals worthy of honor to him. We only wished that Doctor Miller could have been present at this meeting for the library was placed on display in the Agricultural Library and with the addition of the Colonel Walker library and a number of interesting odd American journals, the pretentious display was possible.—H. F. Wilson, Madison, Wis.

*Southern Indiana* We are now in the midst of the greatest drouth known in the history of this locality. No rain to amount to anything since June. To add to the distress the temperature is the highest known in history also for Indiana. The thermometer has registered 100 for 45 days and ranged from 100 to the record breaker of 110. Fields of corn that were showing promise of a great crop are dried up as brown as they ever were in December. As I rode to the outyard, the wind was so hot that it burnt my face so that I had to put up the windshield. Many colonies on new combs melted down. First, one would see the bees climbing out the entrance and clustering on top of the hives and in a little while a clear stream of honey would flow out of the entrance. A few colonies only were killed. In many cases the comb slumped down in the bottom of the hives and the bees would rebuild the combs so that all I had to do was to clean out the wax in the bottom. Old combs stood up well but new combs melted badly. No damage was done to the mating hives but the Carniolans did not seem to stand the heat as well as the Italians.

**A Honey Plant That Yields Best in Seasons of Drouth Has Been a Great Benefit to the Bees This Season.**

White clover crop was a total failure while the sweet clover gave about one-third of a crop. With everything brown, I expected it would take what the bees had laid up to winter them on, but I was greatly surprised as the weather remained hot and dry to see nectar drop from the combs. Blue vine was hardly in bloom. Some swarms were reported and a fair honey flow on. As it increased, I found it was bluevine commonly known as dry weather vine. It has been said that the hotter and drier the weather is the better it yields. If that is the case we should have a bumper crop. I can not imagine how it can hold out if the drouth continues. A neighbor told me this weather saves gas as he has been digging baked potatoes and picking roasted roasting ears. I doubt if the drouth will have any bad effect on next year's sweet clover but white clover looks as though it would never bloom again. On account of the short fruit crop there seems to be a much better demand for honey this year than usual.—Jay Smith, Vincennes, Ind.

**Pennsylvania** It is hard to estimate the damage which the long drouth and extremely hot weather have done. Buckwheat, corn, and all other crops are withered and practically beyond help, even though rain should come soon. In spite of all of this, the bees are still making a living and, strange to say, they are actually storing a small amount of buckwheat honey. This new honey is so thick that it will not shake out of the combs even when shaken quite vigorously. I am sure that this is the first time that I have known buckwheat nectar to be practically as dense as well-ripened honey. The bees work on the buckwheat only a very few hours in the early part of the day. The hot sun very quickly withers the plants which look fairly fresh in the morning. Heavy dew each night helps out some.

Herculese club (*Aralia spinosa*) is quite abundant around here and this is its year to bloom. It blooms about every third or fourth year. This shrub is not hurt by the dry weather quite as much as smaller plants. It is beginning to bloom and in a few days the bees may be obtaining nectar from it. It is usually a heavy yielder and we are hoping that the bees will fill up for winter from this source. This honey is very bitter and not fit for table use, but bees always winter well on it. The goldenrod is abundant but the dry weather has caused the plants to be dwarfed and the heads are showing up rather small. The honey crop in this section is sure to be a minus quantity and since many of the factories are starting to operate, the honey market is likely to be somewhat better than for several years.—Geo. H. Rea, Reynoldsville, Pa.

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**Western New York** We have just returned from attending the summer meeting of the New York State Honey Producers' Association held at the home of Lewis J. Elwood, Fort Plain, New York, on August 8. There were over 300 in attendance. All sections of the state were represented, a good many having driven over 300 miles to attend. I think it was one of the best and most enjoyable meetings held in the state in a long time.

Information obtained by calling on several beekeepers in both going and returning from the picnic and from others at the meeting, reveals that central and northern New York and the Finger Lake regions have had a very satisfactory white honey crop, while eastern and western

**Beekeepers in Portions of the State Have Harvested Satisfactory Crops, But Those in Other Portions Report Failures.**

New York have had practically complete failures.

All honey that I have seen in this state this year has a very pronounced amount of basswood, and I believe that, as the second growth forests mature, basswood will again be a somewhat important source of white honey in parts of this state.

Many places are suffering from the drouth. This county (Niagara) seems especially hard hit, but as we get reports of the great drouth in many other states we are thankful that conditions are as good as they are here.

Prospects for buckwheat honey are rather light through most of the state.—H. M. Myers, Ransomville, N. Y.

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**Minnesota** During the latter part of July and the first part of August, the severe drouth which has gripped almost the entire nation affected Minnesota beekeeping conditions very decidedly, although apparently conditions were not nearly so bad in this state as in the central and middle western states to the south of us. Conditions in Minnesota are spotted. In some parts sufficient rains were received to give a good honey flow, and a normal, or even above normal, crop will be secured. In other parts very light crops are reported. In general the quality of the crop is a little below that of last year.

Mr. E. L. Sechrist, from the Bee Culture Laboratory in Washington, spent the latter part of August in Minnesota working with Mr. H. G. Ahrens of the University of Minnesota on the project of cost accounting in honey production.

On July 31 the beekeepers of Hennepin County met at the apiary of Father Jager at St. Bonifacius for a picnic and informal discussions of bee topics. Among other things the corn-sugar question was discussed at length. Minnesota beekeepers have taken a very active part in fighting the activities of the corn-sugar interests in attempting to weaken the Pure Food Law.

On August 11 and 12 Mr. Jean Cha-

neaux, vice-president of the Apis Club, from Les Arsures (Jura), France, visited the beekeeping department of the University of Minnesota and a number of Minnesota beekeepers. He was impressed by the large yields obtained in this country, but stated that both the wholesale and retail price of honey in France is about twice as high as here. The French beekeeper is able to live on a very much lower income than the American beekeeper. —M. C. Tanquary, St. Paul, Minn.

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*Michigan* The drouth has reduced the crop one-half in southern Michigan, about one-quarter in central Michigan; but in the northern part, rains have been sufficient to provide an average crop and in some places a bumper crop. Several of the big producers in northern Michigan have been expanding their outfits, and the big crop there makes them forget the poor season last year.

These beekeepers are jubilant over the clean-up of foul brood, and are closely watching newcomers to see that new outbreaks of disease be avoided. In spite of this watchfulness occasionally some beekeeper brings in a truckload of bees without a permit, and, of course, gets into a tangle with the law. After spending so much money to clean up, Michigan beekeepers can not afford to take chances on re-infection, and anyone attracted by the flora and climate and absence of disease in northern Michigan should go through the formality of obtaining a permit to move bees into the state to avoid prosecution.

**Only a Comparatively Few Beekeepers Are Taking Advantage of the Opportunity to Sell Honey at the Roadside.**

The Ohio-Michigan tour was well attended and was favored with fine weather throughout. A noticeable feature was the absence of roadside honey stands. Not more than a dozen honey-for-sale signs were seen in the 1300 miles of the tour, most of which was along main trunk line highways. Beekeepers everywhere should sell as much honey as possible at their door to aid in the marketing problem.

More interest than usual is evidenced in fair exhibits. A special feature at the Michigan State Fair Honey Show will be a daily demonstration of extracting and bottling honey by E. E. Coveyou, Petoskey, who will show the public every step in handling honey from the comb to the retail package. The Kellogg Co., Battle Creek, is co-operating, and Mrs. Day will daily demonstrate various uses for honey by means of oven and refrigerator. Last year this feature attracted thousands to the honey show.—R. H. Kelty, East Lansing, Mich.

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*Kansas* Colonies of bees here had to be fed right up to the honey flow. They were fed all of May and into June until the weather cleared, which was on June 12. The following day colonies on scales showed a gain of two to six pounds. Three days later these colonies gained from eight to thirteen and one-half pounds in a day.

In spite of the very hot and dry weather many beekeepers obtained a normal crop of honey during the last half of June. One beekeeper has taken from those colonies producing comb honey in one of his apiaries, four and five comb-honey supers per colony. Others in different places have only one and two supers per colony of comb honey, and there are still others who do not have any surplus honey of any kind.

The honey in the eastern third of the state is primarily from white clover and white sweet clover. In the central part it is a mixture of sweet clover and alfalfa. It is light in color and of fine quality.

The drouth has continued from the latter part of June and bids fair to continue into the future. Along with this dry condition the temperature has been over 100 degrees F. for about 30 days. This condition has injured the stand of white clover. If the rains come the latter part of this month it is possible for the plants to make sufficient growth before the frosts. The sweet clovers have not made as good growth as possible, but if the rains come soon they will make a good stand.

On June 1 delegates from the various beekeeping organizations in the state met in Topeka and formed the Federation of Kansas Beekeepers' Associations. This is a state-wide organization. It is to have two meetings a year. One is to be in the winter during Farm and Home Week at the Kansas State Agricultural College and the other some time during the early summer.—R. L. Parker, Manhattan, Kans.

**Ontario** This is August 9, and our white honey harvest is over for this year—in fact, all escapes had to be put on at the end of July as early buckwheat sown in barley in many cases threatened to come in.

In the last issue of Gleanings I made a guess as to the crop and also one as to the prospects of basswood. As the result of basswood giving the best general yield all over the Province, with few exceptions, our white honey crop is quite a bit larger than the estimate given in July Gleanings. We have little forest left in our locality and for the past fifteen years we have really had no basswood honey to speak of aside from a nice yield at one yard two years ago. But this year we got a big surprise, for just when it looked like a very slim crop, basswood yielded at all our yards and we have not a pound of honey that is not flavored with basswood. The honey is very heavy—so heavy in fact, that the radial extractor can hardly handle it without quite a lot of breakage, even when handled by experts, and this term, by the way, is not used in reference to any of our own regular helpers. Flavor of honey is very fine but a lot of ours is slightly golden, owing to the presence of a lot of Russian thistle near most of our yards.

A very severe drouth extending from southern and western Ontario right to central parts of the Province, which includes our district, has been with us for quite a while. Three weeks in our locality, but much longer in other parts. Results to date have not been favorable to beekeepers as I am told that much of this territory will have no clover for next year. Clover looks well with us but the extreme heat that has accompanied the drouth is ruining many fields of buckwheat for the farmers and, incidentally, curtailing the production of nectar. However, it might be much worse and a light shower last night may be the signal that the drouth is broken and the extreme heat wave about past.

**Best Yields of Sweet Clover Come When Temperature is Moderate and Ground Soaked With Moisture.**

In the last issue of Gleanings reference is made to sweet clover yielding well east of the Mississippi this year, with the inference that hot days are conducive to nectar secretion from this plant. For the past ten years the bulk of our honey here in York County has come from sweet clover, and hot dry weather is not what we hope for when we look for a big crop from that source. With the ground soaked with moisture and the thermometer ranging between 70 and 85, sweet clover always yields very profusely. With little moisture in the ground and a temperature around 90, very little nectar comes in. In fact, our best yields from sweet clover have been at times when it was too cool for alsike or white clover to yield. Possibly it is a matter of "locality," but I am quite sure as to conditions here in York County, Ontario.

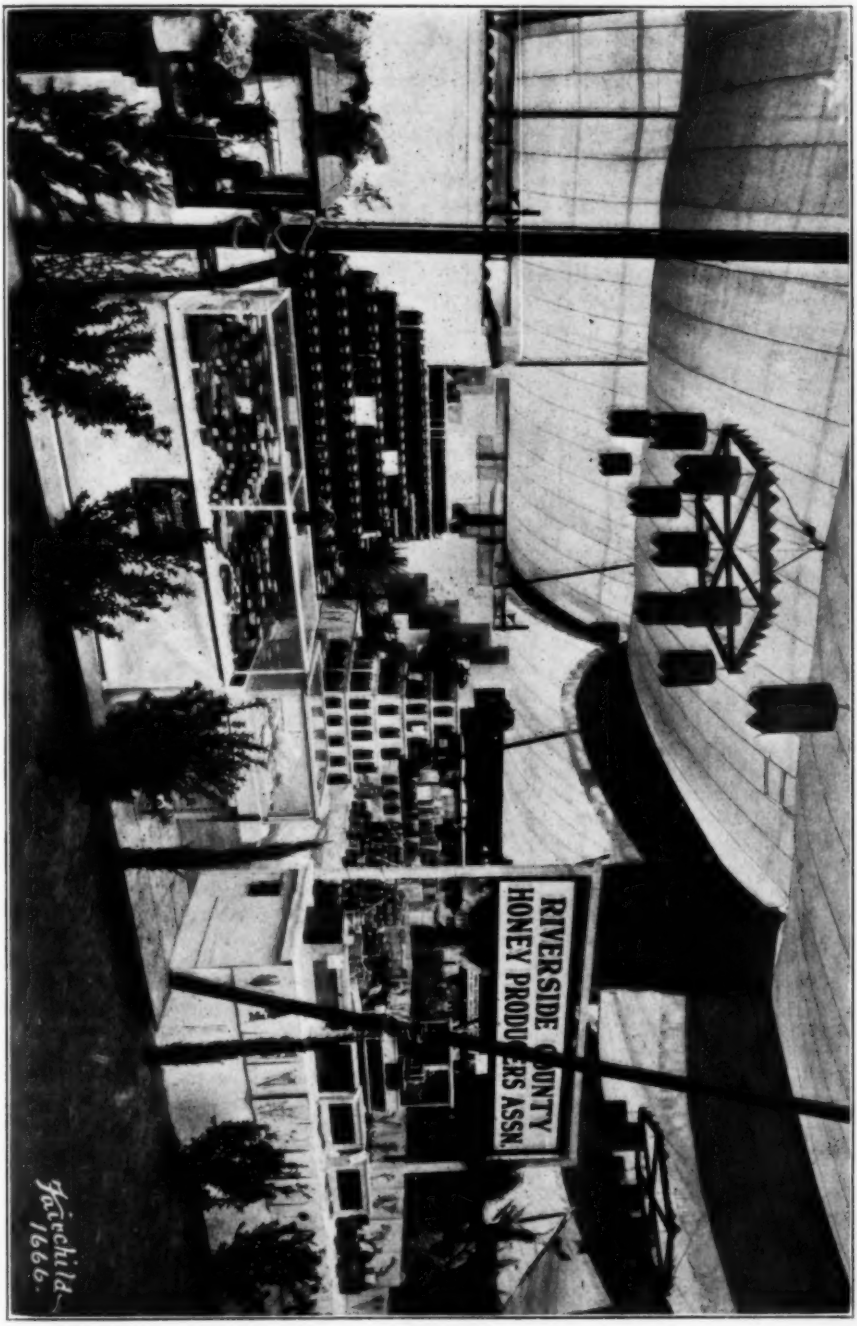
**Bees Cluster on Outside of the Hive During a Honey Flow from Force of Habit.**

Bees, like humans, form habits very quickly and also like said humans, they are hard to break from habits when once formed. Owing to the rush of getting the white honey off ahead of buckwheat, many colonies had no room for a week or ten days as escapes were directly over brood nests in some cases. Of course, the bees clustered outside until we got the white honey removed and empty supers were given to them. In almost every case, the bees have been clustering more or less ever since they were given the empty supers while all others show little tendency to loaf like that.

Many have reported much swarming this season, but in our own apiaries we have had practically none aside from a few colonies that were superseding queens. In half of our yards we never had a single swarm until after the white honey season was over. Many got badly crowded for room, as already intimated, and we have lost one or two swarms at four or five yards. As we have the crop, and a swarm leaving means a young queen for next year, we have done little worrying about loss of a few bees.

As to prices, we have heard but little as yet; but, personally, we are finding a keen demand for the basswood flavored honey. A few farmers have taken from 100 to 200 pounds each, and all are delighted with the quality.

Fruit is scarce locally and I expect a fair demand for honey here at home, but the bulk of our crop will be exported and local conditions do not influence world markets very much.—J. L. Byer, Markham, Ontario.




**FAIR TIME**

**Thousands upon thousands of visitors to state fairs, county fairs, and district fairs will again be reminded this month of the goodness of honey by attractive honey exhibits. In the exhibit of the Riverside County (California) Honey Producers' Association here shown, specimens of honey plants properly labeled are an attractive feature, rivaled only by the tempting display of the honey itself.**

## Heads of Grain from Different Fields

**Quick Way to Stop Robbing** I was badly bothered with robbing some time since, and, in hunting for the carbolic acid, I found some Union Carbide, which I scattered around the hives that were being robbed. In five minutes there was not a robber in sight. This carbide is used by miners for their lamps.—E. C. Frazier, Hillsdale, Ky.

**Do Not Think About Honey** Evidently few people think of honey as an article of food unless their attention is especially called to it. Too many look upon it as a luxury or an article to be used as a medicine for coughs and colds. And these same people think daily, I may say, about coffee, sugar, butter, and other articles for table use. We should shake honey before their eyes as the Mexican bull fighter waves his red blankets before the eyes of the bull.—S. E. Miller, Rhineland, Mo.

**Planer Shavings for Packing** There is quite a lot written about how to pack and what to use for packing bees for out-of-door wintering. As I pack mine in double and quadruple cases, I prefer dry planer shavings and not too many of them in this climate. I use three inches on the sides and all on top the case will hold, leaving about six inches vacant space between the top of the shavings and the top of the packing case. I remove the cover of the hive and cover with two or three thicknesses of burlap and the shavings. With lots of good food, I never lose a colony. I have tried forest leaves but find they hold the moisture too much.—W. L. Joy, Toronto, Ontario.

**Stingless Bees of Mexico** The "stingless" bees of Mexico are the pygmies of the bee family, the queen being about the size of a house-fly, and the workers smaller. They make the sweetest of all honey. They make their home usually in a hollow oak tree. Their habits are exactly the same as other bees and their comb structure is the same. One would naturally think they would not produce much honey, but they certainly do for there are countless thousands of them in a colony. They are very interesting little bees. Having no sting, their method of defense is to butt like a goat. The whole colony will attack a foe and hit like a hailstorm.—J. R. Malaney, Kimbraugh, Ala.

**Introducing Queen from Mailing Cage** Bees frequently fail to gnaw away the cardboard over the candy hole in queen mailing cages, thus making it necessary to examine them after 24 hours, which makes extra work and disturbs the bees. To obviate this the introducing cage should be provided with a candy tunnel long enough when filled to require two and a half to three days to release the queen. When released too soon she is liable to be killed and if not released soon enough the same fate awaits her. I think such an introducing cage would save the life of many valuable queens. To be sure, there are many good and quite safe introducing cages to be had, but thousands of beekeepers use the ordinary cages received with queens for introducing with more or less loss.—A. C. Gilbert, East Avon, N. Y.

**Empty Food-Chambers** Naturally in our eagerness for good honey, which is selling at a fair price, we are apt to take too close the fancy spring honey; then if there is no fall honey flow of dark honey to leave the bees we are up against it. Having this condition one year on account of carelessness, I solved the problem this way:

The chain stores were selling sugar very cheap at one time and I stocked up. There was some honey in the brood frames, and I fed with friction-top pails until the super was also full and sealed. This the bees used to great advantage the following spring. Figuring the cost of sugar and the price of nice white honey I found a gain worth while. Of course, when I found a colony that had a super of fall honey, I let it stay. I have taken these supers of brood in the spring, placed them above two or three other supers and later found some nice queen cells with which to requeen.—Chas. H. Huey, Decatur, Ga.

# Just News

**Editors**

The July 19 issue of "Bakers' Weekly" contains two articles on the use of honey in baking, one entitled "Honey Rolls" and the other "Honey Cakes." The latter article describes the French honey cakes, which are so popular in France.

The bee inspection service of California, in charge of Frank Todd, State Entomologist, keeps beekeepers informed not only by statistics on inspection in the various counties but also in regard to honey flows and honey crop conditions in the various localities of the state.

A series of radio talks on bees and honey will be given over Station WOI, Ames, Iowa, beginning Friday, September 19, at 1 p. m. For those who may not be able to pick up this station, copies of these radio talks can be had by writing to Prof. F. B. Paddock, Ames, Iowa.

The Mid-West Horticultural Exposition will be held at Shenandoah, Iowa, November 11 to 16. Beekeepers from all parts of the country are invited to exhibit honey in the bee and honey department of this great exposition. Details regarding this exposition can be had by writing to Prof. F. B. Paddock, Ames, Iowa.

Statistics secured from a questionnaire on wintering sent out by the Department of Agriculture of the Province of Saskatchewan, Canada, show for those reporting that 1505 colonies of bees were killed last fall with the idea of replacing them with package bees in the spring; 5524 colonies were put in for wintering last fall; 4392 of these came through the winter; and the number of packages imported last spring was 2642.

The August issue of "Canning Age" contains an illustrated article entitled "Seeking the Perfect Honey Package," by Dr. H. E. Barnard, President of the American Honey Institute. The article is well illustrated and stands out as one of the prominent features of the August issue. Sections of comb honey wrapped in Cellophane and packed in fiber cases are illustrated as well as various packages used for extracted honey. There are several illustrations of apiaries, and other illustrations showing how honey is extracted and packed for market.

According to data secured through the Bureau of Foreign and Domestic Commerce, a total of 6,471,770 pounds of honey was exported from the United States during the fiscal year ending June 30, 1930. This compares with a total of 11,805,816 pounds for the fiscal year ending June 30, 1929, and with a total of 8,675,707 pounds for the calendar year 1929. The falling off of exports has been a large factor in the present dull honey market in this country. Of the total amount exported 3,461,863 pounds were exported from the port of Los Angeles alone. The imports of beeswax into the United States from all countries including Porto Rico and Hawaii for the fiscal year ending June 30, 1930, was 4,633,732 pounds. This compares with a total of 5,129,916 pounds for the fiscal year ending June 30, 1929, and with a total of 5,539,064 for the calendar year 1929. The decrease in imports of beeswax thus reflects the depression in industrial conditions in this country.

The new field laboratory for the study of beekeeping problems in the Pacific Coast region for which $15,000 has been appropriated will have a rich field for investigation on account of the varied beekeeping conditions in that region. Some localities are particularly adapted to the production of package bees and queens, some of the most extensive package shippers being located in California. In the great fruit-growing districts the problem of bees for pollination is a big one, and it deserves careful investigation by the new laboratory. The great differences in honey plants within short distances has brought about migratory beekeeping being carried on more extensively than in any other region in the world. And the extensive orange and sage ranges of southern California, the alfalfa region of the central valley and the Imperial Valley, as well as the star thistle region north of Sacramento, offer rich fields for honey production, each region having its own peculiar problems. The new field laboratory will, therefore, have plenty of problems to solve. In addition to the bee culture laboratory at Washington, D. C., the Bureau of Entomology now operates field laboratories at Laramie, Wyo., and Baton Rouge, La. The Pacific Coast laboratory, therefore, will be the third field station for bee culture.

# Food Department

Malitta D. Fischer

## My Mumps

A student in one of the dairy classes came to the lecture one day ill and was informed by the professor that he should go home. The student replied that he could not afford to miss class. He came the next day feeling worse than the day before, and again his professor told him to stay at home. The third day the student again came to class, and this time the professor told him that he must go home for it was against the rules to come to class ill.

The student quickly replied, "They're my mumps, aren't they?"

That is the attitude many beekeepers have when the matter of prices is brought up. "It's my honey, and I can sell it at whatever price I please." Price cutting results and so instead of just interfering with his own market, he demoralizes to a certain extent the market for many others, at least temporarily so.

This is the time to think about selling the crop and the prices at which to sell. Most of the beekeepers today can plan for the production of the crop and will do so. It is not so difficult to get the honey pailed or bottled and labeled ready for the market. But the actual selling is far more difficult, and little preparatory work has been done in building up a market for the crop when it is ready to be sold.

There are so many attractive seasonal uses for honey that honey sales should be uniform—honey should be just as popular in July as November for is not a flavorsome frozen dessert just as necessary in July as honey-topped waffles in November?

If, as you go along, you are always talking honey combinations and making your suggestions seasonal, you will be building a demand for honey the year around. Along with the work of building a demand, maintain uniform prices. This matter of prices is very important and if it can be made uniform throughout the country, one of the big obstacles of our industry will have been removed.

A food authority said to me not so long ago, "Of course, the beekeeping business is small and always will be; but it ought to be profitable, and in the course of a few years can be made so."

That will be true only when the selling price of honey is a sufficient margin above the cost of production. One of the things that will help the selling price is the demand created for honey. There is no end to the demand it is possible to create for honey for the consumption is so very low.

## Give Yourself a Break

Learn to handle your associates—the people you talk to every day, the people you meet at stores, the people you work with, the people at your schools, the people at your church, the people at your clubs, the people in your community. Everyone of these groups offer future honey consumers. These people all can be shown that honey eaten properly and regularly is not only pleasing to the palate but provides the body with vim, vigor and vitality.

It is not so difficult to teach people to eat honey, but it is sometimes difficult to make people apostles. If you succeed in making your friends, neighbors, and acquaintances honey apostles, then you need worry no further about what's going to happen to that surplus you are now removing or planning to move. It won't be a case of "My Mumps," either in a few years. Beekeepers will know that such and such is the right scale of prices to follow in selling honey and then and only then will beekeeping be profitable regardless of how small the industry may be.

Tell everybody under the sun how good honey mousses and frozen honey fruit puddings are this time of the year. Give them the formulas for the same. Serve them these combinations in your home whenever you entertain. Watch them tell others about the goodness of such a combination.

I recall now a stenographer who was convinced after eating several honey combinations how good honey is when served with other foods. Her aunt came to visit at this stenographer's home. The stenographer told her aunt about some of the honey combinations. What happened? The aunt just happened to be a nurse, and on her next case which again happened to be

in a large hospital of a city of pretty good size, the aunt couldn't help mentioning it to other nurses. The result was that finally the dietitian of the hospital heard of the honey combinations and wanted all formulas for her hospital work. The person who influenced that stenographer to become a honey apostle gave the beekeepers a break.

Look about your own localities. Can't you give yourself a break? It doesn't mean that it has to be a hospital break—there are many forms of breaks.

Here's a good story, and it happens to be a true one, too. A beekeeper's wife told me she entered a contest on menus. She sent in a menu but heard nothing further. This menu contest was conducted every month. Several months later she sent in a honey menu and you may know how astonished this beekeeper's wife was when the honey menu was published in the paper and the sender received $5 as the first prize offer in that month's contest.

That beekeeper's wife gave her husband a break. You can get your "womenfolks" to do likewise.

### Are Beekeepers Observing?

How am I going to know how observing you are if you don't write and tell me you saw so and so, and so and so. I don't believe you did. The only way you can convince me is to write and say so.

If you didn't see what I am going to refer to, you ought to have an extra pair of glasses, for the material was in several papers, one with a large circulation in the middle west, and also in a farmer's magazine.

The Farmer's Wife for April carried an article "Liquid Sweets," and Ina B. Rowe, the writer, included a number of good boosts for honey. Not one beekeeper reported seeing this, and I purposely held off mentioning it to see how many would write about the story. In addition to almost a full column on the fine qualities of honey Miss Rowe includes a recipe for honey ice cream.

Newspaper clippings from Oklahoma, Minnesota, Illinois, Wisconsin and Indiana show that a number of National Dairy Council Field Workers are influencing newspapers to appreciate honey milk drinks. The formulas for these tasty and satisfying drinks were included. But one beekeeper in the country reported seeing this material. Why more didn't report is rather puzzling. Surely more of you must have seen the articles.

Then in Meta Given's "Food Talk" for the Chicago Tribune on the third of July we find:

> The blending of flavors is as much an art as the blending of colors. Color blending is a highly developed art—the art of blending flavors is in its veriest beginning.
>
> We miss many delights by not experimenting with flavor combinations in foods. Most of our rules of flavoring have been handed down to us by tradition. It is time that we do a little experimenting ourselves and start some new traditions.
>
> There is nothing better for flavor blending investigations than honey. It is one of our oldest sweets. It has been used for generations in all sorts of foods that needed sweetening.
>
> Many flavors are difficult to obtain but honey is just as available as ever. It is such a delicious sweet and is universally popular. What we need to do these days is to find some of our common foods that will go well with honey.
>
> Recently we found while experimenting with baked apples that apples harmonize well with the flavor of honey. It results in such a delicious dessert that we want to suggest it for your luncheon tomorrow.

That's what Meta Given wrote for her food talk in the Chicago Tribune early in July. And the daily circulation of the Chicago Tribune is 895,000. What do you think of that? Not only that, but many food workers clip the "Food Talk" from the Tribune and keep it in their files. Isn't that a glorious boost for honey and what a break for beekeepers!

### Every Break Must Have a Starter

And from whence comes the stimulus for such breaks? Do you know?

Of course, you all saw the full page advertisements of American Honey Institute that our bee journals were good enough to give gratis for the cause. The bee journal editors are glad to work together for they believe the work will do for the beekeeping industry what no other effort has thus far been able to do. They believe that Dr. Barnard understands his work as a food consultant and are willing to do everything they can to make the work continue as progressively as it thus far has.

There is a limit as to the distance our editors can go. There is a limit as to the distance our bee supply manufacturers and larger bottlers can go.

They all have their horns, drums, trombones and special band instruments to play in the Institute Band. Beekeepers have plenty of instruments waiting for them and we need you in the band. Now is the time to get in the big parade so let's make our band the best honey band the world has ever known.

Whether it's honey or money, it matters not. The honey which beekeepers sent last year has been in part responsible

(Continued on page 600.)

# Talks to Beginners

Geo. S. Demuth

In a few favored localities where rainfall has been sufficient for the fall nectar-bearing plants, the bees may store considerable surplus this month. In the New England States and Middle Atlantic States goldenrod and other fall flowers usually yield considerable nectar, and in some localities in this region the main honey flow occurs this month. In the buckwheat region, the honey flow from late buckwheat sometimes continues into September. Second-growth sweet clover often continues to supply decreasing amounts of nectar this month. In low wet ground, Spanish needle and other fall flowers come into bloom early this month and sometimes yield abundantly. Later in the month and extending into October the asters, when abundant, supply considerable nectar in some localities.

In many localities there will no doubt be a dearth of nectar in September this year, especially where the drouth has injured the fall flowers. In other localities, the colonies may fill one or two supers with fall honey during this month. The kind of care the colonies will need this month, therefore, depends largely upon whether or not there is a fall honey flow in the locality.

### Preparing Colonies for Winter

In the extreme North, September is the last month of brood-rearing for the season. Further south, brood-rearing may be continued well into October, and in the South into November and even December. During the last month of brood-rearing, the bees usually gradually decrease the amount of brood so that at the end of the brood-rearing period there are only small patches of brood in a few combs. This last six or eight weeks of brood-rearing is highly important to the colony since in this way most of the bees that will survive the winter are reared.

Colonies that have good queens and that have enough bees and food to continue rearing a normal amount of brood through this late brood-rearing period should be in good condition for winter. But any colony that is quite weak, short of honey, has a poor queen, or, for any other reason, fails to rear a sufficient amount of brood during this period, will be in poor condition for winter. Beekeepers too often think of preparation for winter as beginning on the advent of cold weather, forgetting that the most important preparation for winter must be done during late summer and fall in order that each colony may have a sufficient number of young, vigorous bees to tide over the broodless period of winter.

Anything that interferes with the rearing of a normal amount of brood this month, such as too little honey, crowding the brood-rearing space with late honey stored in the brood-chambers, old or otherwise poor queens, queenlessness, or too few bees to take care of the normal amount of brood, reduces the chances of the colony living through the winter, and reduces the number of vigorous workers that would be present next spring in those colonies that are able to pull through the long cold period. The most important thing in connection with the care of the colonies this month in most localities in the United States, therefore, is to see that nothing stands in the way of rearing young bees for winter.

Colonies that are short of honey, as many are in the drouth area, should be fed liberally to stimulate brood-rearing before brood-rearing normally ceases. This can be done by feeding syrup made of equal parts by measure of sugar and water. The syrup can be fed in a friction-top pail having a few small holes punched in the cover, the pail, when filled with syrup, being inverted over the hole in the inner cover and protected by placing an empty hive-body and a regular cover over it. Colonies that are destitute of stores may need several such pails of syrup to stimulate the rearing of enough brood to make a good winter colony. The ordinary 10-pound friction-top honey pail is excellent for this purpose.

If, on the other hand, there is a good fall honey flow which causes the bees to crowd the queen too much with honey in the brood-chamber, a set of empty combs given above will relieve the condition; but it should be remembered that the amount of brood will be gradually decreased late in the season anyway. Strong colonies in normal condition often reduce the amount of brood at this season down to the equivalent of that which would completely fill two or three frames, although the brood may be scattered

through five or six. It is not necessary that there be extensive brood-rearing during the last half of August and September in the North and during September and October in the South in order to insure good wintering. The equivalent of as little as two combs solidly filled with brood on an average for the last two months of brood-rearing would usually result in colonies strong enough for winter.

It is not too late to replace poor queens with good ones. It often happens that colonies having queens that are two or three years old reduce brood-rearing below the danger point at this season. By replacing such queens now, the young queen would still have a month or more, according to the locality, to lay eggs to produce the winter colony. While to many beginners, finding the old queen and introducing the young one may seem like a difficult task, it is certainly highly advisable to tackle the job in the case of old or otherwise poor queens that are doing poor work at this time. By working carefully, the beginner should be able to find the old queen without serious difficulty. If she is not found on the first examination, it is well to close the hive and try again the next day. The old queen should not be removed until the new one arrives so that the old queen can be taken out and killed and the new one introduced in the same operation.

Colonies found to be queenless at this season are sometimes so far depleted in population that it does not pay to supply them with queens. Such a colony may be united with another, simply by placing the brood-chamber of the queenless colony on the other hive with nothing between but one or two sheets of newspaper having a few pinholes punched through it.

As a rule, colonies that have vigorous young queens and an ample supply of honey (not less than 10 or 15 pounds at any time) usually rear a sufficient amount of brood to make a good winter colony, even though there is a dearth of nectar during late summer and fall. The most important things in the management of the bees during September, therefore, are (1) to supply stores to those which are short of honey, either by adding combs of honey or by feeding sugar syrup, and (2) replacing any old or otherwise poor queens. It is not necessary to examine all the combs in the hive in order to determine whether the colony has a good queen or whether it has sufficient stores. By taking out only one or two frames from the middle of the brood-chamber, it is usually possible to tell whether or not the colony is in normal condition at this season. If it has enough brood scattered through four or five combs to completely fill two frames and has not less than 15 or 20 pounds of honey, the colony is in good condition so far as fall brood-rearing is concerned. Colonies that do not have sufficient stores for winter and spring can be fed next month in the North and in November in the South.

**Colonies Become Smaller in Autumn**

Colonies usually become much smaller as winter approaches. This is especially true in localities having a fall honey flow when the old bees sometimes wear themselves out rapidly searching for nectar when nectar is scarce. Great strength in number of bees is not necessary for good wintering. In fact, colonies that were extra strong in July may be reduced to three pounds of bees (about 15,000) or less during the fall. If the three pounds are mostly young bees reared this month, such colonies usually winter well. Since an ordinary frame well filled with brood would give a pound (about 5000 bees) it will thus be seen that only three frames solidly filled with brood would be necessary to make a strong winter colony.

**Management for Fall Honey Flow**

In those favored localities having a good honey flow this month, beginners should keep a close watch on their colonies to be sure that they are supplied with sufficient super room. As a rule, it is better to have the fall honey stored in extracting combs since it is difficult to produce good comb honey during a fall honey flow. One super is usually enough for a fall honey flow since the honey usually comes in slower than it does earlier in the season. If more room is needed, it sometimes happens that four or five combs of ripened honey can be taken from the middle of the super, the honey extracted and the combs returned to the super. When this is done, it is well to place the combs of unfinished honey in the middle of the super and the empty ones at the sides. But instead of extracting the honey in such cases, it is much better to leave it for the bees if a food-chamber filled with early honey has not already been left to supply an abundance of food for winter and spring.

# Gleaned by Asking

Geo. S. Demuth

**Removing Combs Containing American Foul Brood**

Question—When only a few cells of American foul brood are found in one comb in a hive, would removing this comb stop the disease?—E. C. Ice, West Virginia.

Answer—There is, of course, a possible chance of ridding a colony of American foul brood when it first makes its appearance by taking away the comb in which it is found. However, the possibility of removing all of the infection in this way is so slight that it would be dangerous to try it. In most cases the disease would be sure to appear later. The disease is usually found in only a few cells at first, and often spreads slowly, but the infection may be in several of the combs so that removing the one in which it is found does not stop the spread of the disease.

**Making Honey Vinegar**

Question—Will you please tell me where I can secure the proper cultures for making honey vinegar?—E. H. Vincent, Oklahoma.

Answer—Honey vinegar can be made much as cider vinegar is made by diluting the honey with water, then allowing the solution to ferment. Five parts of water to one part of honey by weight gives about the right strength. Much better results are obtained by adding certain mineral matter to increase the growth of the organisms which cause fermentation. The Michigan Agricultural College some time ago published a bulletin in which the following formula is given: Honey, 40 to 45 pounds; water, 30 gallons; potassium tartrate, 2 ounces; ammonium phosphate, 2 ounces. It is recommended that this solution be boiled for 10 minutes in order to kill the micro-organisms, which would later cause trouble, and to give the vinegar a better color. The alcoholic fermentation can be greatly hastened by adding a starter prepared from a pure yeast culture. The acetic fermentation can be hastened by adding "mother of vinegar." The bulletin mentioned above tells how to make these starters.

**Honey Ferments in Combs**

Question—I have known our horsemint honey to ferment and burst the cappings while still on the hive. What is the best way to handle such honey?—E. P. Stiles, Texas.

Answer—Handing honey that begins to ferment in the combs before it is ready to be extracted is a difficult problem. To extract such honey before it is fully ripened, would result in thin honey that, unless heated, would ferment soon after being extracted; and to leave it on the hive, especially if the nights are cool or the weather is damp, would result in fermentation in the combs. It sometimes happens that only small patches of honey ferment, and if left with the bees they remove this sour honey. If fermentation is localized in patches in this way, it is sometimes well to leave such honey with the bees until they have cleaned out these patches, since the rest of the honey may be all right. In some cases, it is a good plan to extract honey that is liable to ferment just as soon as it is sufficiently ripened, then heat it to about 140 degrees Fahrenheit to stop fermentation, and finally seal it while hot when it should be safe from further fermentation.

**Wax Moth Larvae in Comb Honey**

Question—Where do the wax moth larvae come from that get into comb honey after it is taken from the hive? How can I keep them out?—Merrill G. Culver, Maryland.

Answer—The eggs of the wax moth may be on the supers, or, in some cases, even inside of the super, when it was taken from the hive. These eggs hatch within ten or twelve days after being laid, then the tiny larvae find their way to the combs and begin their destructive work. To prevent damage to comb honey by the wax moth, the supers may be piled in tight piles and fumigated with carbon bisulphide about ten days after the honey was taken from the hive. One ounce of carbon bisulphide placed in a shallow pan within an empty super on top of the pile is sufficient to kill the larvae of the wax moth in six supers. If twelve supers are in the pile, two ounces should be used. The pile should, of course, be covered to confine the fumes, and the pile should be made as tight as possible so that the fumes are held within the supers long enough to kill the wax moth larvae. The honey will then be safe to put on the market so far as damage from wax moth is concerned.

**Wax from Combs Containing Moths**

Question—Will it do to mix old combs containing moths with other scrap comb to sell for wax?—E. P. Eastes, Illinois.

Answer—The fact that the combs contain larvae or cocoons of the wax moth does not render them unsuitable for wax. Of course, the moth larvae have consumed more or less of the wax, so the yield will be considerably less than before they started on them. Such combs

should not be shipped to a central wax-rendering plant without first destroying the larvae of the wax moth, since they would go on with their destructive work and probably leave but little wax in the shipment by the time the combs reach the rendering plant. They should be either rendered at once, or placed in boiling water to kill all the wax-moth larvae, after which the material can be sent to the wax-rendering plant.

**Uniting to Reduce the Number of Colonies**

Question—I have more colonies than I want and would like to reduce the number by uniting. When is the best time to do this? Some of them are not quite as strong as I like.—D. F. Riherd, Kentucky.

Answer—A good time to unite colonies that are not up to full strength is late in October or early in November in your locality. At that time the last of the brood for the season usually will have emerged. The colonies to be united should be gradually moved toward each other until the hives stand side by side. They can then be united without much confusion in flight. When ready to unite, simply place one brood-chamber above the other with nothing between except one or two sheets of newspaper with a few pinholes punched through them. The bees will then gnaw away the paper and unite peaceably. When this uniting is done after brood-rearing has ceased, the newspaper may be omitted. You can unite these colonies at any time between this and the beginning of cold weather by the newspaper plan. In your locality you can winter the colonies in the two stories, but it will be well to place the heavier brood-chamber on top so most of the honey will be above the cluster. If there is a choice between the queens, the poorer one should be found and killed before uniting.

**Wax Moth in Warm Climate**

Question—This is a fine place for bees, but a serious trouble is the wax moth. Is there any way to prevent losses from the wax moth?—R. L. Ash, Texas.

Answer—The wax moth is especially destructive in warm climates since winter does not stop their destructive work. In such localities the colonies usually become smaller during the winter and some may not be able to protect the combs in several stories, thus giving the wax moth an opportunity to work if there is no freezing weather. If the extracting combs are stored in a building until needed again, it is necessary to fumigate them about ten days after being taken from the bees, after which, if they are stored in a tight place where moths can not enter, they should be safe. However, even then they should be examined frequently for it is difficult to keep moths out even in a tight building. Since black bees and hybrids do not eliminate the wax moths as do the Italians, the first step in the control of the wax moth in warm climates is to Italianize the apiary, then always keep all colonies strong in order that they may protect the combs. In warm climates some beekeepers place their extracting combs back on the hives for winter, thus leaving them in the care of the bees throughout the year. In the North, combs can be stored in an unheated room with safety during winter since freezing temperatures kill the wax-moth larvae.

**Sure Method of Introducing Queens**

Question—Would you advise introducing a valuable queen by placing her in a nucleus containing frames of emerging brood, then build the nucleus up to a full colony by adding frames of brood from time to time?—W. I. Reed, Missouri.

Answer—Releasing the queen among bees emerging from combs of sealed brood is a sure method of introduction. These combs are placed in the hive after shaking and brushing all the bees from them and the entrance is closed with a screen. Care must be taken to select combs containing a large number of emerging bees so that the brood will not become chilled while away from the hive. Some place the hive above a screen over a strong colony to prevent the brood being chilled, if the weather is cool. Since these young bees have known no other queen, they accept the one given. The queen should not be released among the bees until quite a number have emerged. This plan is used only in case of very valuable queens, as a rule.

**Cleaning Extracting Combs**

Question—I have some supers of extracting combs in which the honey was partly granulated when I extracted. There is a lot of granulated honey left in them. What should I do with them?—James Chisholm, Canada.

Answer—You can induce the bees to clean these combs simply by placing the supers of combs on hives containing strong colonies. If this is done during a dearth of nectar, the bees will usually quickly clean out all the granulated honey. They may store some of the honey back in the combs, but you can remove this by a second extracting, if you wish. In cleaning such combs the bees may leave dry crystals of honey in the cells or drop them to the bottom-board, but the loss, if any, from this will be exceptionally small.

# *Sell and Buy Here*

## CLASSIFIED ADS

**Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.**

### HONEY FOR SALE

"We do not guarantee the reliability of honey sellers, although we require strict references from them."—From Our Guarantee and Advertising Conditions.

STURDEVANT clover honey, St. Paul, Nebr.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CLOVER HONEY—Comb and extracted. Dr. E. Kohn & Son, Grover Hill, Ohio.

CHOICE white clover extracted honey, any quantity. Jay Cowing, Jenison, Mich.

CHOICE clover honey, in 5-lb. pails, 60-lb. cans. C. J. Baldridge, Kendaia, N. Y.

NEW CROP clover honey extracted, in new sixties. D. R. Townsend, Northstar, Mich.

1930 CROP, finest white clover honey, comb and extracted. Write Stoller Apiaries, Latty, Ohio.

WHITE clover extracted honey. Write for prices and sample. Kalona Honey Co., Kalona, Iowa.

HONEY—New York State extracted white clover. 60-lb. can, $6.00. J. G. Burtis, Marietta, N. Y.

HONEY FOR SALE, any kind, any quantity. The John G. Paton Co., 217 Broadway, New York City.

FOR SALE—White clover honey, none finer. Write for prices. Fred Leininger & Son, Delphos, Ohio.

MICHIGAN'S finest clover honey, new cans, 8½ cents; ten cases, 8 cents. John McColl, Tecumseh, Mich.

OHIO'S finest extracted white clover honey. Prices on request. Sample, 15c. Geo. Morrison, Cloverdale, Ohio.

FOR SALE—Extra choice white clover honey, case or carload. Also amber. David Running, Filion, Mich.

FOR SALE—White clover honey in 60-lb. cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

HOWDY'S HONEY—New crop of fine Michigan clover honey. Case or carload. Howard Potter, Jr., Ithaca, Mich.

FINE quality fancy and No. 1 white clover comb honey; also extracted. Write for prices. J. I. McGinnity, Edgerton, Wis.

HONEY FOR SALE—All grades, any quantity. H. & S. Honey & Wax Company, Inc., 265 Greenwich St., New York City.

FOR SALE—Finest quality No. 1 and fancy white clover comb honey; extracted in 5s and 60s. Wilbur Green, LaGrange, Ind.

FOR SALE—Three cars white and white amber in 60-lb., 10-lb. and 5-lb. tins. Write for prices. Dadant & Sons, Hamilton, Ill.

CHOICE lots white clover, sweet clover, light amber and buckwheat in any amount. State quantity wanted when writing. A. I. Root Co. of Chicago, 224 W. Huron St., Chicago.

WHITE clover extracted honey. Sample, 10c. S. W. Markestad, Canton, Minn.

FOR SALE—Light honey in 60-lb. cans. David Conn, Roaring Branch, Pa.

CARLOAD clover white extracted honey. Old Taylor Honey Co., Chandler, Okla.

NORTHERN Michigan white honey. Ralph Lenosky, East Jordan, Mich., Rt. 5.

WHITE clover comb and extracted honey. Charles Guhl, Rt. 7, Napoleon, Ohio.

FOR SALE—New crop white clover comb honey, 4¼x4¼ sections. C. Holm, Genoa, Ill.

NORTHERN Michigan raspberry blend white honey. Sample, 15c. Grant Watts, Boyne City, Mich.

CHOICE white extracted honey in 60-lb. cans, two to the case. Leland Farnsworth, Davison, Mich.

CHOICE clover extracted honey packed in new 60-pound cans and cases. E. V. Reinert, Tracy, Minnesota.

WATER-WHITE extracted in new 60s and fancy white comb honey. Prices on request. Howard Grimble, Holcomb, N. Y.

FOR SALE—A-1 diamond clear clover extracted honey, new crop, $9.00 per case 120 pounds. Virgil Weaver, Moville, Ia.

FOR SALE—Michigan finest white clover honey, in new cans and cases. Sample, 15c. C. E. Glover, Kalamazoo, Mich., R. R. 6.

NEW clover and basswood blend white honey. Case or car. Write for prices and sample. David S. Pearl, Rt. 1, Lansing, Mich.

FOR SALE—35 tons clover-basswood honey, very white, case lots, 9c. Write for prices in quantity. Leroy C. Keet, Watertown, N. Y.

40,000 lbs. best light northern Michigan honey. None finer. Sample, 15c. Prefer car-lot buyer. George Jaquays, East Jordan, Mich.

FINEST quality clover honey in new 60s, 8½c per pound; 3 cases or more, 8 cents. Light amber, 7½c. Martin Carsmoe, Ruthven, Iowa.

HEAVY bodied, water-white sweet clover honey, in case or carlots. Sample, 10c. C. S. Engle, 1610 4th Ave. South, Fargo, North Dakota.

RASPBERRY and basswood comb, chunk honey, or extracted, six 5-lb. tins, $4.85; 10 lbs., postpaid, $2.50. F. L. Barber, Lowville, N. Y.

NEW crop clover-basswood honey in new 60-lb. cans, and 5-lb. pails; also buckwheat in kegs and 60-lb. cans. H. B. Gable, Romulus, N. Y.

FOR SALE—A No. 1 white clover-basswood blend extracted honey, 10c per lb. for case of 120 lbs. or carload. Leonard S. Griggs, 711 Avon St., Flint, Mich.

$11.40 for a case of two 60-pound cans of choice clover extracted honey, delivered freight paid your station within 500 miles of Savanna. Write for large lot price. Valley View Apiaries, Savanna, Ill.

FOR SALE—Very fine grade of clover and basswood blend honey in 60-lb. cans, two to the case. Write for prices. George M. Sowarby, Cato, N. Y.

FOR SALE—Very fine grade of clover and basswood blend honey in 60-lb. cans, two to the case. Write for prices. Leroy R. Bradley, Meridian, N. Y.

NEW CROP clover-basswood blend honey in new 60-lb. cans; also buckwheat in kegs and 60-lb. cans. Write for price on case or carlots. E. L. Lane, Trumansburg, N. Y.

18 CASES amber honey at $9.00 per case, 2 60s; 5 barrels at 7½c per pound; some chunk comb in 10-lb. cans. Write for prices. Sample, 15c. R. L. Tucker, Nettleton, Miss.

I AM going to move. Will make a very attractive price to anybody who can use from 50 to 100 60-lb. cans of nice, ripe white and sweet clover honey. M. Noack, Frankfort, Ill.

CLOVER honey, No. 1 comb, $4.50; No. 2, $3.50 per case. Glass-front, wood or fiber cases, six or eight case carriers. Clover extracted, 9c. 60-lb. cans. H. G. Quirin, Bellevue, Ohio.

RASPBERRY HONEY—In new 60-lb. cans, for 11c a lb. In 10-lb. cans, by mail or express postpaid, for $2.50 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

NEW CROP SHALLOW FRAME COMB HONEY, also section honey, nice white stock, securely packed, available for shipment now. Colorado Honey Producers' Association, Denver, Colo.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails our specialty. A. I. Root Co. of Syracuse, 124 Williams St., Syracuse, N. Y.

WE are now shipping new crop clover extracted honey. New cans with 2½-inch screw caps. Of course, it's "Townsend Quality." Say how much you can use and we will be pleased to quote you our best price. E. D. Townsend & Sons, Northstar, Michigan.

FANCY white comb, $4.50 case; No. 1 white, $4.00; No. 2 white, amber, or buckwheat, $3.50. 1930 crop. Have some 1929 crop at 50c per case less, which is in good condition. Clover extracted, 8½c; buckwheat, 8c in 60-lb. cans. C. B. Howard, Geneva, N. Y.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

COMB and extracted honey, chunk honey, extracted honey in 10 sizes of glass, 2½, 5, 10 and 60-lb. tins. Livest labels in U. S. or plain. Special combination sales case free with $25.00 and $50.00 orders. Write for free samples, prices and illustrated circular showing our packages. Griswold Honey Co., Madison, Ohio, U. S. A.

## HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—All our honey-producing friends should take note of the following from the "Guarantee and Advertising Conditions" of Gleanings in Bee Culture: "We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the seller."

WANTED—Clover honey in any quantity, extracted. Send sample and lowest cash price. F. M. Babcock, Fredonia, N. Y.

CASH for extracted clover honey at Columbus. Give price in first letter. Benninghof Farm, Sta. F., Columbus, Ohio.

WANTED—A limited amount of section and shallow frame comb honey. Early delivery required. Sioux Honey Association, Sioux City, Iowa.

WANTED—Carlots of honey. State quantity, shipping point, and price. Mail sample. Hamilton, Wallace & Bryant, Los Angeles, Calif.

BEESWAX WANTED — Will accept shipments of beeswax at regular market price in exchange for bee supplies. The A. I. Root Co., Medina, Ohio.

WANTED—A car or less quantity of white honey, in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, Birmingham, Mich.

WANTED—Shipments of old combs and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendered. The Fred W. Muth Co., Pearl and Walnut Sts., Cincinnati, Ohio.

HONEY PRODUCERS—We are interested in purchasing extracted honey in 60-lb. tins. Advise us of the quality and the quantity that you have and name your lowest prices. C. F. Schobert & Co., 407 Broadway, Kansas City, Mo.

## FOR SALE

FOR SALE—100 cases used 60-lb. cans, two in case, used once. Chas. F. Kohr, 9245 So. Western Ave., Chicago, Ill.

FOR SALE—Forty new display cases, catalogue number 2750; price, $10.00. Taylor Bee Supply Co., Chandler, Okla.

MAKE queen introduction SURE. One SAFIN cage by mail, 25c; five for $1.00. Allen Latham, Norwichtown, Conn.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M 53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

NEW style uncapping knife. Two-handled draw knife style, steam-heated uncapping knife, with swinging comb holding device. Saves time and labor of uncapping. Patent applied for. Write for full particulars. Knabe & Schmidt, Hugo, Minn.

## BEE SUPPLY SPECIALTIES

METAL EYELETS in your frames will stop the WIRE SAG which is responsible for most SAGGED COMBS. METAL EYELETS, per 1000, 60c. Handy tool for inserting eyelets, 25c; postage, 3c per 1000. Superior Honey Co., Ogden, Utah.

## BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from disease, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or, it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

HOLLOPETER'S northern bred, hardy prolific Italian queens. Untested, one, $1.00; five, $4.50; ten, $8.00; 20, $15.00. Safe arrival and satisfaction guaranteed. J. B. Hollopeter, Rockton, Pa.

GOLDEN ITALIAN QUEENS. Write for 1930 prices. Sam Hinshaw & Son, Randleman, N. C.

SHE-SUITS-ME queens after August 20, until September 20, 60c each, ten or more, 50c each. Allen Latham, Norwichtown, Conn.

FOR SALE—TWIN-DEL QUALITY QUEENS and ROOT QUALITY BEEKEEPERS' SUPPLIES. Prompt service. W. G. Lauver, Middletown, Pa.

HARRISON ITALIAN QUEENS, 40c each, balance of season. Thrifty, hardy, beautiful and gentle. Harrison Apiaries, Honoraville, Rt. 1, Alabama.

QUEEN BUYERS should get our price for delivery after May 15. WE CAN SAVE YOU MONEY. Write us. Crenshaw County Apiaries, Rutledge, Alabama.

FOR SALE CHEAP—750 colonies bees with modern equipment. Good location. Guaranteed no disease. Law practice demands my time. N. L. Stapleton, Colquitt, Ga.

SEPTEMBER special prices on our golden Italian queens, producing large beautiful bees, solid yellow to tip. Untested select, $1.00 each. Dr. White Bee Company, Sandia, Texas.

LISTEN—To every new customer answering this ad I will sell two of my select untested queens at the price of one. Two for $1.25. Carolina Bee Co., Graham, N. C.

HARRISON ITALIAN QUEENS, 40c each, balance of season. Thrifty, hardy, beautiful and gentle. Harrison Apiaries, Honoraville, Rt. 1, Alabama.

ALABAMA queens, bright Italians, bred by a vocational breeder. 1, 75c; 6, $3.60; 12, $6.60; 100, $50.00. Try them and you will order more. Safe arrival guaranteed. H. B. Talley, R. F. D. No. 4, Greenville, Ala.

I AM offering my Golden Italian queens the balance of the season (untested), any number, 50c each; tested, $1.00 each. I guarantee these queens to be as good as money can buy, or your money back. E. F. Day, Honoraville, Ala.

SELECT three-banded Italian queens. Every queen shipped from our yard is selected, state inspected and guaranteed to give satisfaction. $1.00 each; 6, $5.00; 12, $9.00; tested, $1.50. Pleasant Garden Apiaries, Pleasant Garden, N. C. Carl E. Causey, Manager.

GOLDEN Italian queens producing golden Italian bees, very gentle, good honey gatherers, not bad swarmers. State inspected. Satisfaction guaranteed. Tested, $1.25; select tested, $2.25. Untested, 90c each; 6 for $4.80; 12 or more, 70c each. Select untested, $1.00. D. T. Gaster, Randleman, N. C.

WRIGHT'S golden queens, producing large, hustling bees, very gentle and beautiful. Select untested, $1.00 each; 5 to 10, 85c each; 10 or more, 70c each. Select tested, $2.50 each. Safe arrival and satisfaction guaranteed. Satisfied customers in thirty-seven states and five provinces in Canada. W. C. Wright, Holt, Mo.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. Requeen with stock that has been bred and selected in the North the past 27 years for good winterers, hustlers, gentleness, and fine color. One queen, $1.00; dozen, $10.00; breeders, $10 each. Emil W. Gutekunst, Colden, N. Y.

IF YOU want gentle bees, good honey-gatherers and beautiful to look at, my strain of Golden Italians will please you. Prices: Untested, 90c; six, $4.80; 12 to 49, 70c each; 50 or more, 65c each. Tested, $1.25 each. Circular on request. Health certificate, safe arrival and satisfaction. Hazel V. Bonkemeyer, R. 2, Randleman, N. C.

IMPROVE your stock and insure a crop. Besides holding Indiana State comb-honey production records for 10 successive years, these gentle, scientifically, line-bred Italian queens "WIN AGAIN," having the longest tongues in competition with 20 other strains. Untested, 1 to 25, $1.25; 25 to 50, $1.15; 50 to 100, $1.00. Select tested, 1 to 25, $2.50. Breeders, $10.00 each. Honeyville Queen Apiary, Rt. No. 1, Foothill Blvd., east of Monrovia, Calif. Visitors welcome.

HARRISON ITALIAN QUEENS, 40c each, balance of season. Thrifty, hardy, beautiful and gentle. Harrison Apiaries, Honoraville, Rt. 1, Alabama.

## WANTED TO TRADE

WILL trade 58 acres land for bees or honey. Dr. E. Kohn & Son, Grover Hill, Ohio.

EXCHANGE books for extracted honey. Correspondence solicited. W. Kerr, Crawfordsville, Indiana.

## SITUATION WANTED

WANTED—To associate with beekeeper who will teach me further in apiculture. Have bees and understand first rudiments. American, married, forty. Weight, 178; five feet eleven inches tall. Strong, reliable, sober, fine appearance. Good salesman, can run stand, operate auto, typewriter. Have bottled and sold honey ten years. Am employed, always been so. Can furnish bond. Two children, twelve and sixteen. References exchanged. Salary or shares. Write Box 55, Southville, Mass.

## MISCELLANEOUS

DOGS—Registered bulldog puppies, $15.00. Claude Persons, Delevan, N. Y.

WANTED—100 or more colonies bees in some western state. Herman B. Schellhorn, Inola, Okla.

WANTED—To buy used hives in lots of five or more. Standard 8 or 10 frame. Must be free from disease and in good condition. Brookdale Farm, Barnes, Kans.

RABBITS—The beekeepers' sidelines, for profit. Pedigreed chinchillas, prize winners. Two junior does and unrelated buck, $10.00. Ohmert Honey Co., Dubuque, Iowa.

WANTED—Partner to go in bee business. Have place and some bees and equipment in Bitter Root Valley, Hamilton, Mont. For further information, write the Gleanings in Bee Culture, Box 65, Medina, Ohio.

CANDIES—Home-made, sell at 4 times their cost. Spare-time business from home kitchen. Profits while you learn. Same home-study course prepares men or women to fill demand in candy industry for "skilled" employees. Free book explains. Capitol Candy School, Dept. F-2271, Washington, D. C.

### TOLD BY THE JAY

(Continued from page 573.)

gathering that they did not notice the difference till it came time to unload, so they just deposited their honey in the milk cans and the owner of the truck sold the honey for enough to make the final payment on his car and a first payment on a radio."

"And yet," I remarked, "Some people say bees are not smart!"

## Mott's Northern-Bred Italian Queens

Non-swarmers. Five prime swarms the last three seasons from 200 colonies. Bred 350 feet of postoffice. Free descriptive list with testimonials. Why buy hybrids? We guarantee all queens to be select, purely mated, or a free queen given.

April, May: 1, $1.25; 12, $12.50. June: 1, $1.00; 6, $5.75; 12, $11.50; 50, $45.00; 100, $85.00. Select tested, $2.00. Virgins, 50c.

Twenty-five years a specialty. No disease, safe delivery and satisfaction guaranteed.

E. E. Mott & Son, Glenwood, Mich.

## Queens! Queens!

**THREE-BANDED ITALIANS**

**Disease Free. Apiaries under state inspection.**

Select untested, one grade only, 1 to 99, 75c each; 100 or more, $70.00 per 100. Select tested, $1.50 each.

Middle Tennessee Apiaries

Leo C. Parks, Mgr.

**SPRING HILL, TENNESSEE**

## *Jay Smith's Queens $1.00 Each*

**FOR THE REMAINDER OF THE SEASON.**

Experts tell us the crest of the hard times is passed and next year will see things booming again, so it will certainly pay you to get your colonies in good shape for winter.

You can make no better investment than to head your colonies with our splendid high-bred queens at one dollar each. Our queens are the best we ever produced. We are now running 250 colonies for honey and testing our bees for honey production, so from now on our stock will be from the highest producers.

Our customers find it a real joy to work with our gentle, beautiful bees, and report as finding them wonderfully profitable as unsurpassed honey getters. Write for literature.

**PRICES:** $1.00 each; $45.00 for fifty; $75.00 per hundred. Breeding queens, service guaranteed throughout 1931, $10.00 each. You will like our queens.

*Jay Smith*

Route 3. **VINCENNES, IND.**

## CONNECTICUT QUEENS

**THREE-BANDED ITALIANS THAT PRODUCE HUSTLERS**

**50c EACH ANY NUMBER 50c EACH**

A. E. CRANDALL, BERLIN, CONN.

**50c Each Thousands Now Ready to Ship 50c Each**

## *Queens--Queens--Queens*

## Berry's Reliable Italian Queens

After thirty-six years of Select Breeding we have a strain of Three-banded Italian Bees that are unsurpassed for disease resistance (especially European foul brood), and honey production. Having several branches for the production of honey located in the Northwestern States and Western Canada gives us an excellent opportunity to test out our strain from both honey production as well as climatic standpoints. All queens are of select quality. The culls we destroy. Only those that we would use in our own apiaries do we sell to our customer friends. Wings of queens are clipped free of charge on request.

Safe arrival and satisfaction we guarantee. Also we make prompt shipment or when wanted. We have no disease. Our apiaries were the first in the state to be inspected and were found clean. Directions for introduction and a Health Certificate accompany all shipments. References: The First National Bank, Montgomery.

**Price of Our Queens**

**50c Each — Any Number — 50c Each**

**M. C. Berry & Co., Box 697, Montgomery, Ala., U. S. A.**

**FOOD DEPARTMENT**

(Continued from page 591.)

for the excellent results the Institute secured from allied food workers. Through the donations of honey, the Institute was able to send honey to educational directors of such companies as Royal Baking Powder, Crisco, Evaporated Milk Association, National Dairy Council, McCormick Company, and a few others. With this honey these home economic women started experimenting with honey and had it not been for the honey beekeepers sent, the Institute could not have gotten this part of its program started.

You can see how necessary it is to have honey and so the Institute is hoping beekeepers all over the country will send honey for the 1931 program. Keep this in mind when removing your surplus crop.

**KITSELMAN FENCE**

Now is the time to buy ***Fence, Steel Posts, Gates, Barb Wire, Paints, Roofing***—direct from our big mills. Prices lowest in years. All ***Copper-Bearing*** Steel Wire Fence, 99 92/100 per cent Pure Zinc Galvanized. ***WE PAY FREIGHT. 12-to-24 Hour Service.*** Don't delay—write today for Catalog!

WRITE for FREE CATALOG

**KITSELMAN BROS.** Dept. 21 **Muncie, Ind.**

## Sour Honey

Me and Ab aint ever had a better summer. No lawns to mow and not a garden as was worth hoein for two months. If we could only have it hot and dry this way every year! There aint no other jobs to trouble us either. Everythin has worked together just splendid almost all summer, only there aint been no bumblebee business for there's nothin for them to live on around here. Our lovin life partners aint so happy though. Me and Ab say we want work awful bad and tell 'em so. It nearly drives 'em off their reason. You can almost hear their teeth nashin when we tell 'em how awful we feel about it. They grab the telephone and ask everybody in town if they don't want somethin done. They don't. Then me and Ab act so disappinted, and put off sad like to his barn and down back lots to Rocky

(Continued on page 601.)

**Send us your order for honey labels, letterheads, envelopes, etc.**
**The A. I. Root Company, Medina, O.**

# Better Late Than Never

Queens introduced early in September have time to get in some good licks before winter. Be sure to have every colony headed with a young, prolific queen of a known honey-gathering strain.

**Root Quality three-banded Italian queens will please you.**

| Queen Prices: | 1 to 24 | 25 to 49 | 50 or over |
|---|---|---|---|
| Untested | $1.00 ea. | $0.85 ea. | $0.70 ea. |
| Tested | 2.00 ea. | 1.85 ea. | |
| Select Tested | 5.00 ea. | | |

Note—Untested queens are young laying queens of this season's rearing.

Our new mailing and introducing cage helps to make queen introduction more safe and sure.

**The A. I. Root Company, Medina, Ohio**

**SOUR HONEY DEPT.**

(Continued from page 600.)

creek where we have caught more mud turtles this summer on account of low water than ever afore. We get a half dollar apiece for a big fat snappin turtle. So Ab sings and whistles again just as he useter do on openin night of coon season, and this summer has flowed along like a heavenly stream ever since June. 1930 will allays be a red-letter year with me and Ab, allays.

* * *

Old Jack Deyell is back from a long beekeepin tour with Michigan beekeepers as was got up by R. H. Kelty, fishin boss of beekeepin in Mich. Kelty is the smartest beekeepin offishal I ever knew. He runs these annual Mich. beekeepin tours way up north of the Straits where there is the best fishin in his state then he lets the tour come home without him. Me and Ab send Kelty our most distintinkwished considerashuns.

* * *

Just let me get started on somethin like what's a pure breed queen, as the editors of Gleanins don't know nothin about themselves, and they up and cut my writins square in two. They did it last Gleanins. They don't want the light, especially if they aint got any themselves. So I want it printed if they aint too afraid

(Continued on page 604.)


## 40c---3-banded

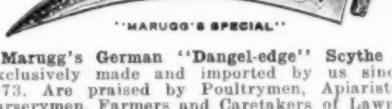
Italian queens. During September and October I will furnish select guaranteed pure queens at 40c each, any number.

**G. H. Merrill Apiaries, Greenville, S. C.**

## "Gray Caucasians"

Caucasians winter on a poor grade of stores and with little winter protection. Caucasians fly freely on days too cold for Italians to leave the hive. Caucasians sting very seldom; also they are very industrious. $1.00 each; 6 for $5.00.

**R. W. BALDWIN, Route 4, Greencastle, Ind.**




**Marugg's German "Dangel-edge" Scythe**
Exclusively made and imported by us since 1873. Are praised by Poultrymen, Apiarists, Nurserymen, Farmers and Caretakers of Lawns in every state. Catalog free. Address
**The Marugg Co., Dept. B, Tracy City, Tenn.**

## 45c *This Is Why You Should Buy L. L. Forehand's Queens* 45c

Dear Sir: I wish to take this means of letting you know we received the queens, which arrived in first class condition and were safely introduced. Your queens have proven far superior to other Southern queens bought this year. We have had a much greater per cent of them accepted by the bees due to their ability to come through the mail without damage. We find your bees are good workers, build pretty combs, not inclined to swarm. You may quote us on two to four hundred. ————, N. Mex.

Dear Mr. Forehand: Your last shipment of the hundred queens received in fine shape. Will say that you certainly put out fine queens. Please send by return mail 30 queens and three days later 20 queens. I will want more later. I thank you for your prompt shipment and fine queens. ————, Missouri.

WESTERN UNION. SHIP 12 UNTESTED QUEENS. WE LIKE YOUR QUEENS AND SERVICE. ————, Ohio.

Dear Sir: I received the queens in good condition. They are the nicest bees and finest queens I ever saw. I have bought queens from all over the United States trying to find a stock to breed from. Quote prices on breedingg queens. ————, Tenn.

We have hundreds similar to the above which is proof in itself that our 20 **YEARS OF SELECTING AND BREEDING** are bearing fruits. **L. L. FOREHAND GUARANTEES HIS QUEENS TO BE AS GOOD AS CAN BE PRODUCED.** Why buy from breeders that change stock every year when you have proof like above to guide your buying?

Safe arrival and perfect satisfaction guaranteed or your money refunded. Write for quantity discount.

***L. L. Forehand Apiaries, Jesup, Georgia***

## The Genuine Three-band Leather Colored Italian Queens

Gentle, prolific, hardy, large, beautiful, and extra good honey gatherers. Surely you will not be disappointed if you try some of these queens, 50c each; $45.00 per 100.

**D. C. JACKSON, RT. 1, MOULTRIE, GA.**

## Golden Queens

NOW **50c** EACH

**IMMEDIATE SHIPMENT.**

**BEAUTIFUL, GENTLE AND GOOD HONEY GATHERERS.**

We have specially made, patent pending, safe introducing cage, which is also self introducing, in which we guarantee safe introductions even to laying worker colonies. The price for queen in this cage is 50c additional. No disease. Health certificate. No charge for clipping. Pure mating and safe arrival guaranteed.

The Golden Apiaries

**John T. Knight, Mgr. LETOHATCHIE, ALA.**

## EDWARDS METAL ROOFS

*Greatest Values-Lowest Prices*

**DURABLE** Roof your house or barn with Edwards Metal Roofing, and it's roofed for good! Fire-proof, rust-resisting, lightning-proof, wind and weather-proof. Pure steel, painted or galvanized, or Edwards famous rust-resisting, copper-bearing steel.

**BEAUTIFUL** Styles for every purpose and effect. Shingles (individual, cluster, Spanish tile). Sheets (plain or corrugated, v-crimped or standing-seam).

**ECONOMICAL** We roll our steel, make our roofs and sell direct to you at amazingly low factory prices.

Thousands of farmers have found Edwards Metal Roofing the permanent solution to the roofing problem. You will too. Write for free samples, prices and Roofing Book No. 183.

**We Pay the Freight**

**The Edwards Manufacturing Company**

933-983 Butler St. Cincinnati, Ohio (B)

## Get Running's Queens

**And Get honey—They Satisfy.**

The kind WE use in our extensive Michigan Apiaries, where we produce honey by the carload.

Choice untested Italian Queens, 65c each; 10 or more, 50c each. Tested, 50c each extra.

All queens sent from Sumterville, Alabama. Telegraph office, Epes, Ala. Address for quick service—

DAVID RUNNING APIARIES

**Sumterville, Alabama**

## Italian Queens

Three-banded only

## 50c Each

Balance of the season.

Uriah Apiaries

Box 67 Uriah, Ala.

## Mack's Queens

(3-band Italians)

60c each; $6.60 a doz.; $50.00 a 100.

Just try duplicating them for any thing less than a dollar. Many say it can't be done.

Herman McConnell

(The Bee and Honey Man)

**ROBINSON** — Rte. 2 — **ILLINOIS**

**PATENTS** Pat. Counsel of The A. I. Root Co. Practice in Pat. Off. & Court.

CHAS. J. WILLIAMSON

MacLachlan Bldg. Washington, D. C.

## "Better Bred" Queens, 45c Each

**THEY MUST SATISFY. TRIAL ORDER OFFER, 5 FOR $2.00. SAMPLE QUEEN, 40c. No disease. Any number.**

**Calvert Apiaries, Calvert, Ala. R. G. Holder, Prop.**

# Knight's Queens

Are Now **50c** Each

**FOR IMMEDIATE SHIPMENT**
**GOOD AS MONEY CAN BUY.**

**Guaranteed mated pure. Line-bred three-banded leather-colored Italians. The best honey gatherers and winterers. No disease. No charge for clipping.**

Jasper Knight, Hayneville, Ala.

# SEPTEMBER

A good time to requeen, from the 15th of August through September. We will have a slow honey flow which will enable us to rear large quantities of queens at very little cost. Will furnish Select Untested (guaranteed) three-banded Italian queens at 35c each, any amount. Safe arrival, no disease, and perfect satisfaction **GUARANTEED.**

The Crowville Apiaries
Route 1. WINNSBORO, LA.

*E. B. SPITZER, Pres.* *E. R. ROOT, Vice Pres.* *H. E. AYLARD, Cashier*

THE HOME OF THE HONEY BEE

**NO MATTER**
where you live—make your deposits with this 37-year-old bank—**BY MAIL.**

4% BANKING BY MAIL

The SAVINGS DEPOSIT BANK COMPANY MEDINA OHIO

# Quality · Service · Satisfaction

WRITE FOR YOUR COPY OF
OUR 1930 CATALOG TODAY.

❖ ❖ ❖

LEAHY MANUFACTURING CO., Higginsville, Mo.

# GET OUR PRICES

BEFORE · BUYING · BEE · SUPPLIES

For your convenience we have included a coupon with this ad. Use it or write us a letter.

**Our Guarantee**

All goods purchased may be returned if unsatisfactory and money cheerfully refunded. No questions asked.

**Our Service**

While we ship all over the country, we can give special service to those located in the East—New York, Penn., New England, and Atlantic Seaboard states.

W. T. FALCONER MFG. CO.
FALCONER, N. Y.

W. T. Falconer Mfg. Co., Falconer, N. Y.
Gentlemen:
Without obligation on my part, please quote prices. I have.....swarms.
.....Hives .....Sections
.....Supers .....Br. Fdn.
.....Frames .....Super Fdn.
.....Bodies .....
Name .....
Address .....
Town..... State.....

## Miller's Strain Italians

**QUEEN BEES FOR SALE**

From my best select breeders; gentle, good honey-getters; hardy; northern bred; winter well; not inclined to swarm; three-banded. Thirty-six years queen breeding experience. Satisfaction guaranteed. Queens by return mail.

1 untested, 75c; 6 for $4.00; 1 select untested, $1.00; 6 for $5.00; 1 tested, $1.50.

I. F. MILLER

183 Valley. Brookville, Pa.


**SOUR HONEY DEPT.**

(Continued from page 601.)

of the truth comin out. Then here is further what I writ last month but the editor cut off:

Again says Mel, how you goin to standardize queens and what for? Some wants a yellow five band, some wants three band, some wants leather color, some wants a bunty queen, some wants a rat-tail queen. So there you are and more than all else I say queens ought to be bred and guaranteed for producin gentle stock and it can be did. Speakin of size of queens, I say a rat-tail queen will lay her eggs

(Continued on page 606.)


## JENSEN'S

"MAGNOLIA STATE" **50c** QUEENS

**$45.00 PER HUNDRED**

Search the world over, you will find none better. Judging from reports from some of our customers, we are safe in saying you will be more than pleased.

Old customers practically taking our output. **QUICK SHIPMENTS** and **LIVE ARRIVAL** in good condition, as well as **HIGH QUALITY QUEENS**, sure do bring repeat orders.

**CAPACITY, 150 QUEENS DAILY.**

To serve you satisfactorily is our highest ambition.

JENSEN'S APIARIES, CRAWFORD, MISS.

## Morrison's Northern Queens

*Strictly Three-banded Stock*

If you want Italian queens with years of selecting and breeding back of them (19 years of experience) for gentleness, honey gathering, less swarming and capping their honey white, requeen with Morrison's line-bred stock.

| | |
|---|---|
| **UNTESTED** | **$0.75 each** |
| **TESTED** | **1.25 each** |
| **BREEDERS** | **5.00 each** |

**Pure mating, safe arrival and perfect satisfaction guaranteed.**

**George Morrison,** **Cloverdale, Ohio**

## ACHORD QUEENS

**Fine three-banded Italians bred for gentleness and honey-producing ability. They will please you.**

Now 50c each, any number

**Prompt shipments. Safe arrival guaranteed.**

W. D. Achord, Fitzpatrick, Alabama

# Keep Your Honey Trade

❖ Do not let your established honey business fail through a lack of local honey supply, due perhaps to the drouth.

❖ Keep up your sales so that a year from now, when you have a good crop yourself, you will have a regular trade.

❖ Buy good honey from somewhere. Get acquainted with the advertisers of honey in this journal, if you have no local supply. We believe every one of them to be reliable.

❖ Or, we will supply you from our large stocks of both comb and extracted honey here at Medina. We guarantee quality and grade. Our price will be very low. You can depend on our representations.

❖ Let's together keep up the volume of American honey sales in 1930.

The A. I. Root Company, Medina, Ohio

"Quick Service, No Delay"

*My Motto*

Three-banded queens only
Select Untested Queens

50c each

Any Number

Pure mating, safe arrival and entire satisfaction guaranteed. Queens clipped if desired.

Hayneville Apiary Co.
W. E. HARRELL, PROP.
Hayneville, Ala.

Cutts Quality
Cutts Service
Cutts Guaranteed

LOWEST PRICES EVER QUOTED FOR SUMMER QUEENS

To keep our production going 100% for the remainder of the season we are offering queens at the following low prices:

**Untested, 50c each. Select untested, 60c each.**

**Tested, $1.00 each. Select tested, $1.10 each.**

No discount for quantity. Safe arrival and satisfaction guaranteed. Health certificate with each shipment. Take advantage of these low prices and requeen your apiary now. These queens may never be offered at these prices again.

J. M. Cutts & Sons
RT. NO. 1. MONTGOMERY, ALA.

SOUR HONEY DEPT.

(Continued from page 604.)

faster than a bunty queen and she's got more vitality. I want a long slender queen every time, says Mel, and I would standardize up to them and nothin else, and yet some people won't look at a rat-tail queen. So there you are, says Mel.

Well, says me and Ab, we will see old Deyell again and you too afore September and we are goin to have it settled as to what's standard so beekeepers can order a queen and know whether they are gettin 33⅓c worth or $1.00 worth and why.

The fact is, Mel and me and Ab are goin in for a standardized rat-tail queen strain and nothin's goin to stop us. You see.

Mel said he didn't know anythin about fish refusin worker bees and takin drones

(Continued on page 608.)

50 cents each for queens that are worth the difference. Now ready to go.

D. W. Howell
Shellman Georgia

High-Grade Italian Queens

50c Each

Requeening Time

We have only a few weeks now to get those colonies in A-1 condition for winter. Good young queens in your hives now for next spring will be indispensable. Let us help you solve that requeening problem, the opportunity is yours and should not be overlooked.

Our queens are bred direct from the best breeders we were able to procure. Think what this means to you, a strain that has been improved for years and possesses all the good qualities one could wish for. They are bred right, very gentle, hardy, beautiful and great honey-gatherers.

Remember, quality not price makes the value and our queens are guaranteed to please or money back.

Satisfied customers is our motto.

WRITE OR WIRE YOUR RUSH ORDERS FOR RETURN MAIL SERVICE.

York Bee Company
Jesup Georgia

# REQUEEN NOW

Now is the time to requeen with the best Italian queens. You will have less winter loss, better colonies next spring, and a bigger honey crop in 1931, when we hope the price of honey will be better.

Queens cheaper than you can rear them.

We are here to furnish you the best for the least.

## Good Queens---Any Number

# 45c each

If you can buy better ones at any price we will buy these back.

---

## The Stover Apiaries

**Tibbee Station, Mississippi**

Telegraph Office, Mayhew, Miss.

THRIFTY
BEES
PILE UP EXTRA SUPERS OF HONEY

That's why they are guaranteed to please.

50c Each

is our price on young **THRIFTY** queens for the remainder of the season. We ship only the finest of queens and guarantee them to please.

We can make immediate delivery on large or small orders. Wire or write us today.

Ask for free booklet.

**W. J. FOREHAND & SONS**
FORT DEPOSIT, ALA.
SINCE 1892

LOOK NOW

Citronelle Bees and Queens

JUST WHAT YOU HAVE BEEN WAITING FOR.

SUMMER PRICES
Effective June 1st

Untested Queens, any quantity, $0.50 each

Tested Queens, any quantity, $1.00 each

2-lb. pkg. with queen, any quantity ..... $2.50 each

3-lb. pkg. with queen, any quantity ..... $3.00 each

August is requeening time.

Only finest young Bees shipped with 100% Guarantee.

ALABAMA'S LARGEST SHIPPERS
Twenty-four-hour service.

Citronelle Bee Co., Inc.
CITRONELLE, ALA.

QUALITY AND SERVICE.

**SOUR HONEY DEPT.**

(Continued from page 606.)

on surface of the water, but he says drone grubs are the best fish bait there is. He's allays used it in Alabamy where there aint no angle worms. Me and Ab see some big possibilities in commershal fish bait.

Mel showed us a poor little hummin bird as was visitin his gladiolies and some way got its neck between a leaf and the main stalk and in strugglin to get free choked to death. I says to Ab: "Me and you has said a thousand times as how happy the birds was allays especially the hummin birds—and there you are." It wasn't long after me and Ab was married we began noticin how happy the birds be.

Mel also had caught four monkey-face owls in a corn silo and two old marsh hawks, and this month is moth month with him and he is busy. OLD DRONE.

LEININGER'S STRAIN OF ITALIAN QUEENS

Selected untested guaranteed purely mated, 70c each, any number.

**Fred Leininger & Son**
DELPHOS, OHIO

Carniolans

are very gentle, very prolific at all times, resist brood diseases well, build very white combs, propolize almost none and are most excellent workers, average of 180 lbs. extracted from producing colonies. **CARNIOLANS ARE LIKE AN HONEST MAN—YOU CAN DEPEND ON THEM.** Jan Strgar strain, the foremost native Carniolan queen breeder. Twenty-fifth year with them; finest Carniolans in the U. S. Have supplied many Agricultural Colleges and Experiment Stations in U. S. and Canada and the Japanese Government with them. Free circular.

| | |
|---|---|
| Untested queens, one | $ 1.00 |
| Untested queens, dozen | 10.00 |
| Tested queens, each | 2.00 |

Caucasians

The hardy, gray strain from the mountainous regions of the Province of Terek, Caucusus. They are unbelievably gentle, prolific, brood compact, **HAVE THE LONGEST TONQUES OF ANY RACE OF BEES,** and show no inclination to swarm under our management. You who have long been wedded to Italians, why not try out a better bee this season? Free circular.

| | |
|---|---|
| Untested queens, each | $ 1.25 |
| Untested queens, dozen | 14.00 |
| Tested queens, each | 2.25 |

Lower prices on both races in more than dozen lots. Write your needs and get prices.

Albert G. Hann
Glen Gardner, New Jersey

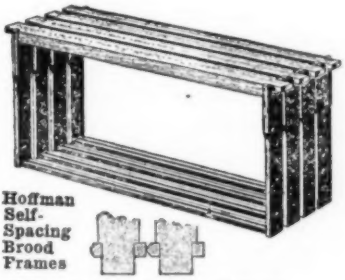
# AN ANNOUNCEMENT

## THE HOME COMFORT CO.

**enters the bee supplies field as owner and operator of the former Schmidt Bee Supply Co.**

THE necessity for extensive expansion on the part of the Schmidt Bee Supply Co., has occasioned the purchase of this well-known institution by the Home Comfort Co. Increased business has found the old factory inadequate for giving improved service to customers.

Mr. Walter Schmidt, pioneer bee expert and dispenser of bee supplies will remain as supervisor of the new Home Comfort plant. As always, first quality, standard construction—the best in materials and workmanship—will mark all Home Comfort supplies. As for prices * * * we now quote the lowest in history. Here's your chance for an honest-to-goodness saving on bee supplies! Full line always in stock.



**Hoffman Self-Spacing Brood Frames**

Write for special low price on these splendid frames. Made with a one-piece solid bottom-bar for plain foundation; also with a split bottom bar or two-piece for wired foundation. State kind desired. Frames made of California soft sugar pine, all parts milled to fit perfectly. Will not split in nailing. Frames packed in Mullen Tested Corrugated Cartons in lots of 50 or 100. Come complete with nails and staples. Write today!

## SPECIAL DISCOUNT SALE

As a special introductory offer, a liberal discount will be allowed on all orders placed with us during September, 1930, for delivery any time up to January 1, 1931. Exceptionally good prices on Hive Bodies, Supers, Brood Frames, Shallow Extracting Frames, Reversible Bottoms, Inner Covers, Metal Top Covers. Get our prices at once and **SAVE REAL MONEY!** Monthly payment plan if you desire. Satisfaction guaranteed.

## THE HOME COMFORT CO.

886-889 Newcomb St. St. Paul, Minn.

# American Beekeepers

## The American Honey Institute Needs Your Support

The bees and honey industry is like a substantial, powerful truck—an assembled job, if you please—made of the best parts obtainable in the United States. At times it has run on the crown of the highway, gradually upward toward the peak of prosperity. At times, though, it has skidded off the crown, perilously close to the ditch, and many heroic efforts have been put forth to get it back on the crown of the road again.

You all know what these efforts have been in years gone by. The last of these is the American Honey Institute, founded by the Bee Industries Association of America.

This Institute, with an annual budget of around $8,000, has, since April 1, 1928, accomplished the following:

a. It has helped to secure a government appropriation of $12,500 for honey research work at the Bureau of Chemistry at Washington, D. C., and this work is now under way.

b. President Barnard, who was for seven years Director of the American Institute of Baking, is in touch with the men at Washington who are seeking to prevent the misbranding of products, many of which are called "honey-this," or "honey-that," the product containing no honey whatsoever.

c. To his host of friends among the bakers he is constantly suggesting honey in cakes and bread.

d. Arrangements have been made for honey feeding experiments under Dr. Schultz at the University of Minnesota.

e. Honey demonstrations on the part of Miss Fischer, suggesting delicious combinations of honey with other foods, at conventions of home economics teachers, dietitians, etc.

f. Articles on honey by Dr. Barnard for magazines, newspapers, trade journals, etc.

The above are only a small portion of the many things being done to promote a greater demand for honey. Most of these activities have been reported in the bee journals each month.

Is not this effort worthy of the support of honey producers?

If you belong to an association, see to it that your association contributes. If not, send in your personal contribution on the basis of one dollar per ton of honey produced or a minimum of $5.00 cash and secure the Institute's complete service to honey producers, or, send in a good will donation to Treasurer Russell H. Kelty, East Lansing, Michigan.

LEWIS W. PARKS,
Chairman, Board of Directors,
American Honey Institute.

This page space donated to the cause of the American Honey Institute by Gleanings in Bee Culture.

# This Honey Display Case

In May and June last, in a Roadside Market near Pittsburg, Pa.,

# Sold $1,000.00

Worth of Honey

Price only $7.50 (K. D., no glass)
Delivered free in U. S.

Send for descriptive circular and price list

## The Griswold Honey Company

Madison, Ohio, U. S. A.

# Comb Honey Producers

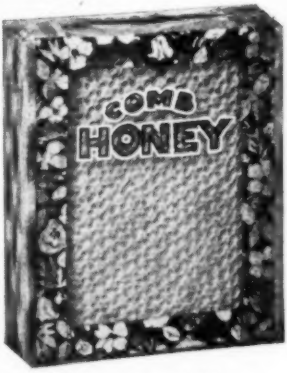
Have 1930 in step with modern merchandising by wrapping comb honey in

## Aeppler Display'O Wrappers

**The Modern Merchant Believes in the Open Display of Goods.**

**Have Every Section a Display Case!**

Designs registered—all rights reserved.




Pack comb honey in corrugated cases and save money. In comparative **DRUM TESTS**, the wooden case and honey was completely damaged in one drop; whereas honey packed in corrugated cases after **TWELVE** drops, showed less damage to both case and honey!

Cut labor costs; no nailing of cases! Wrap comb honey and pack in corrugated cases at no greater cost than wooden cases.

**PRICES**

| | Per 10. | Per 100. | Per 500. |
|---|---|---|---|
| For 4¼x1⅞ .... | $2.60 | $25.00 | $115.00 |
| For 4¼x1½ .... | 2.50 | 24.00 | 110.00 |
| For 4x5x1⅞ .... | 2.50 | 24.00 | 110.00 |

On all orders of fifty cases or more, freight charges **PREPAID** to any point east of the Rockies in the U. S. and Manitoba and Ontario, Canada. Sample case sent prepaid for 60c to any address in the U. S. and Canada.

Gummed tape for sealing cases, 3¼-lb. roll, ½ in. wide. 80c prepaid to any address.

**AEPPLER CASES** are the most practical, most economical, and most illustrative comb-honey containers on the market.

### Wrap Comb Honey and Keep It Clean!

**DISPLAY 'O** wrappers are the only mechanical wrappers on the market; require sealing on one end only. Automatic machines have done three-fourths of the work for you! A thing of beauty, practical and economical. Can be hand wrapped three times as fast as flat wrapped. For quantity work use our machines.

The cellophane used in **DISPLAY'O WRAPPERS** is 50% **HEAVIER** than the cellophane in competitive wrappers. Strength is a feature of a **GOOD** wrapper.

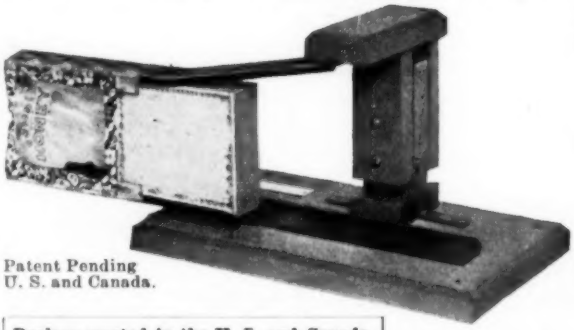
**PRICES**

| | Per 100. | Per 500. | Per 1000. |
|---|---|---|---|
| For 4¼x1⅞ .... | $1.10 | $4.95 | $ 9.80 |
| For 4¼x1½ .... | 1.20 | 5.40 | 10.70 |
| For 4x5x1⅞ .... | 1.20 | 5.40 | 10.70 |

All transportation charges **PREPAID** to any address in the U. S. and Canada. Sample wrapper sent prepaid for 5c to any address. Wrap comb honey and pack in corrugated cases at no greater cost!

## Comb Honey Packaging Machine

**Wrapping capacity of this machine, a case of 24 sections in 4 to 7 minutes. This time includes the sealing of one end of each wrapper.**



Patent Pending
U. S. and Canada.

**Shipped completely assembled and tested. Manufactured to last a lifetime.**

**Must be seen and operated to be appreciated.**

**Price**

**$8.75**

**Prepaid to any address in the U. S. and Canada.**

**Dealers wanted in the U. S. and Canada.**

C. W. AEPPLER COMPANY, OCONOMOWOC, WISCONSIN

Sole Manufacturers and Jobbers